SEQUENCE LISTING

<110> Bayer AG

<120> ATP binding cassette genes and proteins for diagnosis and treatment of lipid disorders and inflammatory diseases

<130> LeA 33298

<140> US/09/786,635

<141> 2001-05-22

<150> 101706

<151> 1998-09-25

<160> 54

<170> PatentIn version 3.1

<210> 1

<211> 6880

<212> DNA

<213> Homo sapiens

<400> 1
caaacatgtc agctgttact ggaagtggcc tggcctctat ttatcttcct gatcctgatc   60

tctgttcggc tgagctaccc accctatgaa caacatgaat gccattttcc aaataaagcc   120

atgccctctg caggaacact tccttgggtt caggggatta tctgtaatgc caacaacccc   180

tgtttccgtt acccgactcc tggggaggct cccggagttg ttggaaactt taacaaatcc   240

attgtggctc gcctgttctc agatgctcgg aggcttcttt tatacagcca gaaagacacc   300

agcatgaagg acatgcgcaa agttctgaga acattacagc agatcaagaa atccagctca   360

aacttgaagc ttcaagattt cctggtggac aatgaaacct tctctgggtt cctgtatcac   420

aacctctctc tcccaaagtc tactgtggac aagatgctga gggctgatgt cattctccac   480

aaggtatttt tgcaaggcta ccagttacat ttgacaagtc tgtgcaatgg atcaaaatca   540

gaagagatga ttcaacttgg tgaccaagaa gtttctgagc tttgtggcct accaagggag   600

aaactggctg cagcagagcg agtacttcgt tccaacatgg acatcctgaa gccaatcctg   660

agaacactaa actctacatc tcccttcccg agcaaggagc tggccgaagc cacaaaaaca   720

ttgctgcata gtcttgggac tctggcccag gagctgttca gcatgagaag ctggagtgac   780

atgcgacagg aggtgatgtt tctgaccaat gtgaacagct ccagctcctc cacccaaatc   840

taccaggctg tgtctcgtat tgtctgcggg catcccgagg agggggggct gaagatcaag   900

tctctcaact ggtatgagga caacaactac aaagccctct ttggaggcaa tggcactgag   960

gaagatgctg aaaccttcta tgacaactct acaactcctt actgcaatga tttgatgaag 1020

aatttggagt ctagtcctct ttcccgcatt atctggaaag ctctgaagcc gctgctcgtt 1080

gggaagatcc tgtatacacc tgacactcca gccacaaggc aggtcatggc tgaggtgaac 1140

aagaccttcc aggaactggc tgtgttccat gatctggaag gcatgtggga ggaactcagc 1200

cccaagatct ggaccttcat ggagaacagc caagaaatgg accttgtccg gatgctgttg 1260

gacagcaggg acaatgacca ctttttgggaa cagcagttgg atggcttaga ttggacagcc 1320

caagacatcg tggcgttttt ggccaagcac ccagaggatg tccagtccag taatggttct 1380

gtgtacacct ggagagaagc tttcaacgag actaaccagg caatccggac catatctcgc 1440

ttcatggagt gtgtcaacct gaacaagcta gaacccatag caacagaagt ctggctcatc 1500

aacaagtcca tggagctgct ggatgagagg aagttctggg ctggtattgt gttcactgga 1560

attactccag gcagcattga gctgccccat catgtcaagt acaagatccg aatggacatt 1620

gacaatgtgg agaggacaaa taaaatcaag gatgggtact gggaccctgg tcctcgagct 1680

gacccctttg aggacatgcg gtacgtctgg ggggggcttcg cctacttgca ggatgtggtg 1740

gagcaggcaa tcatcagggt gctgacgggc accgagaaga aaactggtgt ctatatgcaa 1800

cagatgccct atccctgtta cgttgatgac atctttctgc gggtgatgag ccggtcaatg 1860

cccctcttca tgacgctggc ctggatttac tcagtggctg tgatcatcaa gggcatcgtg 1920

tatgagaagg aggcacggct gaaagagacc atgcggatca tgggcctgga caacagcatc   1980

ctctggttta gctggttcat tagtagcctc attcctcttc ttgtgagcgc tggcctgcta   2040

gtggtcatcc tgaagttagg aaacctgctg ccctacagtg atcccagcgt ggtgtttgtc   2100

ttcctgtccg tgtttgctgt ggtgacaatc ctgcagtgct tcctgattag cacactcttc   2160

tccagagcca acctggcagc agcctgtggg ggcatcatct acttcacgct gtacctgccc   2220

tacgtcctgt gtgtggcatg gcaggactac gtgggcttca cactcaagat cttcgctagc   2280

ctgctgtctc ctgtggcttt tgggtttggc tgtgagtact ttgccctttt tgaggagcag   2340

ggcattggag tgcagtggga caacctgttt gagagtcctg tggaggaaga tggcttcaat   2400

ctcaccactt cggtctccat gatgctgttt gacaccttcc tctatggggt gatgacctgg   2460

tacattgagg ctgtctttcc aggccagtac ggaattccca ggccctggta ttttccttgc   2520

accaagtcct actggtttgg cgaggaaagt gatgagaaga gccaccctgg ttccaaccag   2580

aagagaatat cagaaatctg catggaggag gaacccaccc acttgaagct gggcgtgtcc   2640

attcagaacc tggtaaaagt ctaccgagat gggatgaagg tggctgtcga tggcctggca   2700

ctgaattttt atgagggcca gatcacctcc ttcctgggcc acaatggagc ggggaagacg   2760

accaccatgt caatcctgac cgggttgttc ccccgacct cgggcaccgc ctacatcctg   2820

ggaaaagaca ttcgctctga gatgagcacc atccggcaga acctgggggt ctgtccccag   2880

cataacgtgc tgtttgacat gctgactgtc gaagaacaca tctggttcta tgcccgcttg   2940

aaagggctct ctgagaagca cgtgaaggcg gagatggagc agatggccct ggatgttggt   3000

ttgccatcaa gcaagctgaa aagcaaaaca agccagctgt caggtggaat gcagagaaag   3060

ctatctgtgg ccttggcctt tgtcggggga tctaaggttg tcattctgga tgaacccaca   3120

gctggtgtgg acccttactc ccgcagggga atatgggagc tgctgctgaa ataccgacaa   3180

ggccgcacca ttattctctc tacacaccac atggatgaag cggacgtcct gggggacagg   3240

attgccatca tctcccatgg gaagctgtgc tgtgtgggct cctccctgtt tctgaagaac   3300

cagctgggaa caggctacta cctgaccttg gtcaagaaag atgtggaatc ctccctcagt   3360

tcctgcagaa acagtagtag cactgtgtca tacctgaaaa aggaggacag tgtttctcag   3420

agcagttctg atgctggcct gggcagcgac catgagagtg acacgctgac catcgatgtc   3480

tctgctatct ccaacctcat caggaagcat gtgtctgaag cccggctggt ggaagacata   3540

gggcatgagc tgacctatgt gctgccatat gaagctgcta aggagggagc ctttgtggaa   3600

ctctttcatg agattgatga ccggctctca gacctgggca tttctagtta tggcatctca   3660

gagacgaccc tggaagaaat attcctcaag gtggccgaag agagtggggt ggatgctgag   3720

acctcagatg gtaccttgcc agcaagacga aacaggcggg ccttcgggga caagcagagc   3780

tgtcttcgcc cgttcactga agatgatgct gctgatccaa atgattctga catagaccca   3840

gaatccagag agacagactt gctcagtggg atggatggca aagggtccta ccaggtgaaa   3900

ggctggaaac ttacacagca acagtttgtg gcccttttgt ggaagagact gctaattgcc   3960

agacggagtc ggaaaggatt ttttgctcag attgtcttgc cagctgtgtt tgtctgcatt   4020

gcccttgtgt tcagcctgat cgtgccaccc tttggcaagt accccagcct ggaacttcag   4080

ccctggatgt acaacgaaca gtacacattt gtcagcaatg atgctcctga ggacacggga   4140

accctggaac tcttaaacgc cctcaccaaa gaccctggct tcgggacccg ctgtatggaa   4200

ggaaacccaa tcccagacac gccctgccag gcaggggagg aagagtggac cactgcccca   4260

gttccccaga ccatcatgga cctcttccag aatgggaact ggacaatgca gaacccttca   4320

cctgcatgcc agtgtagcag cgacaaaatc aagaagatgc tgcctgtgtg tcccccaggg   4380

gcagggggc tgcctcctcc acaaagaaaa caaaacactg cagatatcct tcaggacctg   4440

acaggaagaa acatttcgga ttatctggtg aagacgtatg tgcagatcat agccaaaagc   4500

ttaaagaaca agatctgggt gaatgagttt aggtatggcg gcttttccct gggtgtcagt   4560

aatactcaag cacttcctcc gagtcaagaa gttaatgatg ccaccaaaca aatgaagaaa   4620

cacctaaagc tggccaagga cagttctgca gatcgatttc tcaacagctt gggaagattt   4680

atgacaggac tggacaccag aaataatgtc aaggtgtggt tcaataacaa gggctggcat   4740

gcaatcagct ctttcctgaa tgtcatcaac aatgccattc tccgggccaa cctgcaaaag   4800

ggagagaacc ctagccatta tggaattact gctttcaatc atcccctgaa tctcaccaag   4860

cagcagctct cagaggtggc tccgatgacc acatcagtgg atgtccttgt gtccatctgt   4920

gtcatctttg caatgtcctt cgtcccagcc agctttgtcg tattcctgat ccaggagcgg   4980

gtcagcaaag caaaacacct gcagttcatc agtggagtga gcctgtcat ctactggctc   5040

tctaattttg tctgggatat gtgcaattac gttgtccctg ccacactggt cattatcatc   5100

ttcatctgct tccagcagaa gtcctatgtg tcctccacca atctgcctgt gctagccctt   5160

ctactttgc tgtatgggtg gtcaatcaca cctctcatgt acccagcctc ctttgtgttc   5220

aagatcccca gcacagccta tgtggtgctc accagcgtga acctcttcat tggcattaat   5280

ggcagcgtgg ccacctttgt gctggagctg ttcaccgaca ataagctgaa taatatcaat   5340

gatatcctga agtccgtgtt cttgatcttc ccacatttt gcctgggacg agggctcatc   5400

gacatggtga aaaaccaggc aatggctgat gccctggaaa ggtttggggga gaatcgcttt   5460

gtgtcaccat tatcttggga cttggtggga cgaaacctct tcgccatggc cgtggaaggg   5520

gtggtgttct tcctcattac tgttctgatc cagtacagat tcttcatcag gcccagacct   5580

gtaaatgcaa agctatctcc tctgaatgat gaagatgaag atgtgaggcg ggaaagacag   5640

agaattcttg atggtggagg ccagaatgac atcttagaaa tcaaggagtt gacgaagata   5700

tatagaagga agcggaagcc tgctgttgac aggatttgcg tgggcattcc tcctggtgag   5760

tgctttgggc tcctgggagt taatgggggct ggaaaatcat caactttcaa gatgttaaca   5820

ggagatacca ctgttaccag aggagatgct ttccttaaca gaaatagtat cttatcaaac   5880

atccatgaag tacatcagaa catgggctac tgccctcagt ttgatgccat cacagagctg   5940

ttgactggga gagaacacgt ggagttcttt gcccttttga gaggagtccc agagaaagaa   6000

gttggcaagg ttggtgagtg ggcgattcgg aaactgggcc tcgtgaagta tggagaaaaa   6060

tatgctggta actatagtgg aggcaacaaa cgcaagctct ctacagccat ggctttgatc   6120

ggcgggcctc ctgtggtgtt tctggatgaa cccaccacag gcatggatcc caaagcccgg   6180

cggttcttgt ggaattgtgc cctaagtgtt gtcaaggagg ggagatcagt agtgcttaca   6240

tctcatagta tggaagaatg tgaagctctt tgcactagga tggcaatcat ggtcaatgga   6300

aggttcaggt gccttggcag tgtccagcat ctaaaaaata ggtttggaga tggttataca   6360

atagttgtac gaatagcagg gtccaacccg gacctgaagc ctgtccagga tttctttgga   6420

cttgcatttc ctggaagtgt tccaaaagag aaacaccgga acatgctaca ataccagctt   6480

ccatcttcat tatcttctct ggccaggata ttcagcatcc tctcccagag caaaaagcga   6540

ctccacatag aagactactc tgtttctcag acaacacttg accaagtatt tgtgaacttt   6600

gccaaggacc aaagtgatga tgaccactta aaagacctct cattacacaa aaaccagaca   6660

gtagtggacg ttgcagttct cacatctttt ctacaggatg agaaagtgaa agaaagctat   6720

gtatgaagaa tcctgttcat acggggtggc tgaaagtaaa gagggactag actttccttt   6780

gcaccatgtg aagtgttgtg gagaaaagag ccagaagttg atgtgggaag aagtaaactg   6840

gatactgtac tgatactatt caatgcaatg caattcaatg   6880

<210> 2

<211> 2201

<212> PRT

<213> Homo sapiens

<400> 2

Met Pro Ser Ala Gly Thr Leu Pro Trp Val Gln Gly Ile Ile Cys Asn
1   5   10   15

Ala Asn Asn Pro Cys Phe Arg Tyr Pro Thr Pro Gly Glu Ala Pro Gly
            20   25   30

Val Val Gly Asn Phe Asn Lys Ser Ile Val Ala Arg Leu Phe Ser Asp
        35   40   45

Ala Arg Arg Leu Leu Leu Tyr Ser Gln Lys Asp Thr Ser Met Lys Asp
    50   55   60

Met Arg Lys Val Leu Arg Thr Leu Gln Gln Ile Lys Lys Ser Ser Ser
65   70   75   80

Asn Leu Lys Leu Gln Asp Phe Leu Val Asp Asn Glu Thr Phe Ser Gly
            85   90   95

Phe Leu Tyr His Asn Leu Ser Leu Pro Lys Ser Thr Val Asp Lys Met
            100   105   110

Leu Arg Ala Asp Val Ile Leu His Lys Val Phe Leu Gln Gly Tyr Gln
        115   120   125

Leu His Leu Thr Ser Leu Cys Asn Gly Ser Lys Ser Glu Glu Met Ile
    130   135   140

Gln Leu Gly Asp Gln Glu Val Ser Glu Leu Cys Gly Leu Pro Arg Glu
145   150   155   160

Lys Leu Ala Ala Ala Glu Arg Val Leu Arg Ser Asn Met Asp Ile Leu
        165   170   175

Lys Pro Ile Leu Arg Thr Leu Asn Ser Thr Ser Pro Phe Pro Ser Lys
        180   185   190

Glu Leu Ala Glu Ala Thr Lys Thr Leu Leu His Ser Leu Gly Thr Leu
        195   200   205

Ala Gln Glu Leu Phe Ser Met Arg Ser Trp Ser Asp Met Arg Gln Glu
        210   215   220

Val Met Phe Leu Thr Asn Val Asn Ser Ser Ser Ser Thr Gln Ile
225   230   235   240

Tyr Gln Ala Val Ser Arg Ile Val Cys Gly His Pro Glu Gly Gly Gly
            245   250   255

Leu Lys Ile Lys Ser Leu Asn Trp Tyr Glu Asp Asn Asn Tyr Lys Ala
            260   265   270

Leu Phe Gly Gly Asn Gly Thr Glu Glu Asp Ala Glu Thr Phe Tyr Asp
            275   280   285

Asn Ser Thr Thr Pro Tyr Cys Asn Asp Leu Met Lys Asn Leu Glu Ser
        290   295   300

Ser Pro Leu Ser Arg Ile Ile Trp Lys Ala Leu Lys Pro Leu Leu Val
305   310   315   320

Gly Lys Ile Leu Tyr Thr Pro Asp Thr Pro Ala Thr Arg Gln Val Met
            325   330   335

Ala Glu Val Asn Lys Thr Phe Gln Glu Leu Ala Val Phe His Asp Leu
        340   345   350

Glu Gly Met Trp Glu Glu Leu Ser Pro Lys Ile Trp Thr Phe Met Glu
        355   360   365

Asn Ser Gln Glu Met Asp Leu Val Arg Met Leu Leu Asp Ser Arg Asp
        370   375   380

Asn Asp His Phe Trp Glu Gln Gln Leu Asp Gly Leu Asp Trp Thr Ala
385   390   395   400

Gln Asp Ile Val Ala Phe Leu Ala Lys His Pro Glu Asp Val Gln Ser
        405   410   415

Ser Asn Gly Ser Val Tyr Thr Trp Arg Glu Ala Phe Asn Glu Thr Asn
        420   425   430

Gln Ala Ile Arg Thr Ile Ser Arg Phe Met Glu Cys Val Asn Leu Asn
        435   440   445

Lys Leu Glu Pro Ile Ala Thr Glu Val Trp Leu Ile Asn Lys Ser Met
     450   455   460

Glu Leu Leu Asp Glu Arg Lys Phe Trp Ala Gly Ile Val Phe Thr Gly
465   470   475   480

Ile Thr Pro Gly Ser Ile Glu Leu Pro His His Val Lys Tyr Lys Ile
          485   490   495

Arg Met Asp Ile Asp Asn Val Glu Arg Thr Asn Lys Ile Lys Asp Gly
          500   505   510

Tyr Trp Asp Pro Gly Pro Arg Ala Asp Pro Phe Glu Asp Met Arg Tyr
     515   520   525

Val Trp Gly Gly Phe Ala Tyr Leu Gln Asp Val Val Glu Gln Ala Ile
     530   535   540

Ile Arg Val Leu Thr Gly Thr Glu Lys Lys Thr Gly Val Tyr Met Gln
545   550   555   560

Gln Met Pro Tyr Pro Cys Tyr Val Asp Asp Ile Phe Leu Arg Val Met
        565   570   575

Ser Arg Ser Met Pro Leu Phe Met Thr Leu Ala Trp Ile Tyr Ser Val
        580   585   590

Ala Val Ile Ile Lys Gly Ile Val Tyr Glu Lys Glu Ala Arg Leu Lys
        595   600   605

Glu Thr Met Arg Ile Met Gly Leu Asp Asn Ser Ile Leu Trp Phe Ser
     610   615   620

Trp Phe Ile Ser Ser Leu Ile Pro Leu Leu Val Ser Ala Gly Leu Leu
625   630   635   640

Val Val Ile Leu Lys Leu Gly Asn Leu Leu Pro Tyr Ser Asp Pro Ser
          645   650   655

Val Val Phe Val Phe Leu Ser Val Phe Ala Val Val Thr Ile Leu Gln
          660   665   670

Cys Phe Leu Ile Ser Thr Leu Phe Ser Arg Ala Asn Leu Ala Ala Ala
          675   680   685

Cys Gly Gly Ile Ile Tyr Phe Thr Leu Tyr Leu Pro Tyr Val Leu Cys
          690   695   700

Val Ala Trp Gln Asp Tyr Val Gly Phe Thr Leu Lys Ile Phe Ala Ser
705   710   715   720

Leu Leu Ser Pro Val Ala Phe Gly Phe Gly Cys Glu Tyr Phe Ala Leu
          725   730   735

Phe Glu Glu Gln Gly Ile Gly Val Gln Trp Asp Asn Leu Phe Glu Ser
          740   745   750

Pro Val Glu Glu Asp Gly Phe Asn Leu Thr Thr Ser Val Ser Met Met
          755   760   765

Leu Phe Asp Thr Phe Leu Tyr Gly Val Met Thr Trp Tyr Ile Glu Ala
          770   775   780

Val Phe Pro Gly Gln Tyr Gly Ile Pro Arg Pro Trp Tyr Phe Pro Cys
785   790   795   800

Thr Lys Ser Tyr Trp Phe Gly Glu Glu Ser Asp Glu Lys Ser His Pro
          805   810   815

Gly Ser Asn Gln Lys Arg Ile Ser Glu Ile Cys Met Glu Glu Glu Pro
          820   825   830

Thr His Leu Lys Leu Gly Val Ser Ile Gln Asn Leu Val Lys Val Tyr
          835   840   845

Arg Asp Gly Met Lys Val Ala Val Asp Gly Leu Ala Leu Asn Phe Tyr
  850   855   860

Glu Gly Gln Ile Thr Ser Phe Leu Gly His Asn Gly Ala Gly Lys Thr
865   870   875   880

Thr Thr Met Ser Ile Leu Thr Gly Leu Phe Pro Pro Thr Ser Gly Thr
      885   890   895

Ala Tyr Ile Leu Gly Lys Asp Ile Arg Ser Glu Met Ser Thr Ile Arg
    900   905   910

Gln Asn Leu Gly Val Cys Pro Gln His Asn Val Leu Phe Asp Met Leu
   915   920   925

Thr Val Glu Glu His Ile Trp Phe Tyr Ala Arg Leu Lys Gly Leu Ser
  930   935   940

Glu Lys His Val Lys Ala Glu Met Glu Gln Met Ala Leu Asp Val Gly
945   950   955   960

Leu Pro Ser Ser Lys Leu Lys Ser Lys Thr Ser Gln Leu Ser Gly Gly
     965   970   975

Met Gln Arg Lys Leu Ser Val Ala Leu Ala Phe Val Gly Gly Ser Lys
    980   985   990

Val Val Ile Leu Asp Glu Pro Thr Ala Gly Val Asp Pro Tyr Ser Arg
   995   1000   1005

Arg Gly Ile Trp Glu Leu Leu Leu Lys Tyr Arg Gln Gly Arg Thr
  1010   1015   1020

Ile Ile Leu Ser Thr His His Met Asp Glu Ala Asp Val Leu Gly
  1025   1030   1035

Asp Arg Ile Ala Ile Ile Ser His Gly Lys Leu Cys Cys Val Gly
  1040   1045   1050

Ser Ser Leu Phe Leu Lys Asn Gln Leu Gly Thr Gly Tyr Tyr Leu
  1055   1060   1065

Thr Leu Val Lys Lys Asp Val Glu Ser Ser Leu Ser Ser Cys Arg
  1070   1075   1080

Asn Ser Ser Ser Thr Val Ser Tyr Leu Lys Lys Glu Asp Ser Val
  1085   1090   1095

Ser Gln Ser Ser Ser Asp Ala Gly Leu Gly Ser Asp His Glu Ser
  1100   1105   1110

Asp Thr Leu Thr Ile Asp Val Ser Ala Ile Ser Asn Leu Ile Arg
  1115   1120   1125

Lys His Val Ser Glu Ala Arg Leu Val Glu Asp Ile Gly His Glu
  1130   1135   1140

Leu Thr Tyr Val Leu Pro Tyr Glu Ala Ala Lys Glu Gly Ala Phe
  1145   1150   1155

Val Glu Leu Phe His Glu Ile Asp Asp Arg Leu Ser Asp Leu Gly
  1160   1165   1170

Ile Ser Ser Tyr Gly Ile Ser Glu Thr Thr Leu Glu Glu Ile Phe
  1175   1180   1185

Leu Lys Val Ala Glu Glu Ser Gly Val Asp Ala Glu Thr Ser Asp
  1190   1195   1200

Gly Thr Leu Pro Ala Arg Arg Asn Arg Arg Ala Phe Gly Asp Lys
  1205   1210   1215

Gln Ser Cys Leu Arg Pro Phe Thr Glu Asp Asp Ala Ala Asp Pro
  1220   1225   1230

Asn Asp Ser Asp Ile Asp Pro Glu Ser Arg Glu Thr Asp Leu Leu
  1235   1240   1245

Ser Gly Met Asp Gly Lys Gly Ser Tyr Gln Val Lys Gly Trp Lys
  1250   1255   1260

Leu Thr Gln Gln Gln Phe Val Ala Leu Leu Trp Lys Arg Leu Leu
  1265   1270   1275

Ile Ala Arg Arg Ser Arg Lys Gly Phe Phe Ala Gln Ile Val Leu
   1280   1285   1290

Pro Ala Val Phe Val Cys Ile Ala Leu Val Phe Ser Leu Ile Val
   1295   1300   1305

Pro Pro Phe Gly Lys Tyr Pro Ser Leu Glu Leu Gln Pro Trp Met
   1310   1315   1320

Tyr Asn Glu Gln Tyr Thr Phe Val Ser Asn Asp Ala Pro Glu Asp
   1325   1330   1335

Thr Gly Thr Leu Glu Leu Leu Asn Ala Leu Thr Lys Asp Pro Gly
   1340   1345   1350

Phe Gly Thr Arg Cys Met Glu Gly Asn Pro Ile Pro Asp Thr Pro
   1355   1360   1365

Cys Gln Ala Gly Glu Glu Glu Trp Thr Thr Ala Pro Val Pro Gln
   1370   1375   1380

Thr Ile Met Asp Leu Phe Gln Asn Gly Asn Trp Thr Met Gln Asn
   1385   1390   1395

Pro Ser Pro Ala Cys Gln Cys Ser Ser Asp Lys Ile Lys Lys Met
   1400   1405   1410

Leu Pro Val Cys Pro Pro Gly Ala Gly Gly Leu Pro Pro Pro Gln
   1415   1420   1425

Arg Lys Gln Asn Thr Ala Asp Ile Leu Gln Asp Leu Thr Gly Arg
   1430   1435   1440

Asn Ile Ser Asp Tyr Leu Val Lys Thr Tyr Val Gln Ile Ile Ala
   1445   1450   1455

Lys Ser Leu Lys Asn Lys Ile Trp Val Asn Glu Phe Arg Tyr Gly
   1460   1465   1470

Gly Phe Ser Leu Gly Val Ser Asn Thr Gln Ala Leu Pro Pro Ser
   1475   1480   1485

Gln Glu Val Asn Asp Ala Thr Lys Gln Met Lys Lys His Leu Lys
  1490   1495   1500

Leu Ala Lys Asp Ser Ser Ala Asp Arg Phe Leu Asn Ser Leu Gly
  1505   1510   1515

Arg Phe Met Thr Gly Leu Asp Thr Arg Asn Asn Val Lys Val Trp
  1520   1525   1530

Phe Asn Asn Lys Gly Trp His Ala Ile Ser Ser Phe Leu Asn Val
  1535   1540   1545

Ile Asn Asn Ala Ile Leu Arg Ala Asn Leu Gln Lys Gly Glu Asn
  1550   1555   1560

Pro Ser His Tyr Gly Ile Thr Ala Phe Asn His Pro Leu Asn Leu
  1565   1570   1575

Thr Lys Gln Gln Leu Ser Glu Val Ala Pro Met Thr Thr Ser Val
  1580   1585   1590

Asp Val Leu Val Ser Ile Cys Val Ile Phe Ala Met Ser Phe Val
  1595   1600   1605

Pro Ala Ser Phe Val Val Phe Leu Ile Gln Glu Arg Val Ser Lys
  1610   1615   1620

Ala Lys His Leu Gln Phe Ile Ser Gly Val Lys Pro Val Ile Tyr
  1625   1630   1635

Trp Leu Ser Asn Phe Val Trp Asp Met Cys Asn Tyr Val Val Pro
  1640   1645   1650

Ala Thr Leu Val Ile Ile Ile Phe Ile Cys Phe Gln Gln Lys Ser
  1655   1660   1665

Tyr Val Ser Ser Thr Asn Leu Pro Val Leu Ala Leu Leu Leu Leu
  1670   1675   1680

Leu Tyr Gly Trp Ser Ile Thr Pro Leu Met Tyr Pro Ala Ser Phe
  1685   1690   1695

Val Phe Lys Ile Pro Ser Thr Ala Tyr Val Val Leu Thr Ser Val
1700   1705   1710

Asn Leu Phe Ile Gly Ile Asn Gly Ser Val Ala Thr Phe Val Leu
1715   1720   1725

Glu Leu Phe Thr Asp Asn Lys Leu Asn Asn Ile Asn Asp Ile Leu
1730   1735   1740

Lys Ser Val Phe Leu Ile Phe Pro His Phe Cys Leu Gly Arg Gly
1745   1750   1755

Leu Ile Asp Met Val Lys Asn Gln Ala Met Ala Asp Ala Leu Glu
1760   1765   1770

Arg Phe Gly Glu Asn Arg Phe Val Ser Pro Leu Ser Trp Asp Leu
1775   1780   1785

Val Gly Arg Asn Leu Phe Ala Met Ala Val Glu Gly Val Val Phe
1790   1795   1800

Phe Leu Ile Thr Val Leu Ile Gln Tyr Arg Phe Phe Ile Arg Pro
1805   1810   1815

Arg Pro Val Asn Ala Lys Leu Ser Pro Leu Asn Asp Glu Asp Glu
1820   1825   1830

Asp Val Arg Arg Glu Arg Gln Arg Ile Leu Asp Gly Gly Gly Gln
1835   1840   1845

Asn Asp Ile Leu Glu Ile Lys Glu Leu Thr Lys Ile Tyr Arg Arg
1850   1855   1860

Lys Arg Lys Pro Ala Val Asp Arg Ile Cys Val Gly Ile Pro Pro
1865   1870   1875

Gly Glu Cys Phe Gly Leu Leu Gly Val Asn Gly Ala Gly Lys Ser
1880   1885   1890

Ser Thr Phe Lys Met Leu Thr Gly Asp Thr Thr Val Thr Arg Gly
1895   1900   1905

```
Asp Ala  Phe Leu Asn Arg Asn  Ser Ile Leu Ser Asn  Ile His Glu
   1910             1915              1920


Val His  Gln Asn Met Gly Tyr  Cys Pro Gln Phe Asp  Ala Ile Thr
   1925             1930              1935


Glu Leu  Leu Thr Gly Arg Glu  His Val Glu Phe Phe  Ala Leu Leu
   1940             1945              1950


Arg Gly  Val Pro Glu Lys Glu  Val Gly Lys Val Gly  Glu Trp Ala
   1955             1960              1965


Ile Arg  Lys Leu Gly Leu Val  Lys Tyr Gly Glu Lys  Tyr Ala Gly
   1970             1975              1980


Asn Tyr  Ser Gly Gly Asn Lys  Arg Lys Leu Ser Thr  Ala Met Ala
   1985             1990              1995


Leu Ile  Gly Gly Pro Pro Val  Val Phe Leu Asp Glu  Pro Thr Thr
   2000             2005              2010


Gly Met  Asp Pro Lys Ala Arg  Arg Phe Leu Trp Asn  Cys Ala Leu
   2015             2020              2025


Ser Val  Val Lys Glu Gly Arg  Ser Val Val Leu Thr  Ser His Ser
   2030             2035              2040


Met Glu  Glu Cys Glu Ala Leu  Cys Thr Arg Met Ala  Ile Met Val
   2045             2050              2055


Asn Gly  Arg Phe Arg Cys Leu  Gly Ser Val Gln His  Leu Lys Asn
   2060             2065              2070


Arg Phe  Gly Asp Gly Tyr Thr  Ile Val Val Arg Ile  Ala Gly Ser
   2075             2080              2085


Asn Pro  Asp Leu Lys Pro Val  Gln Asp Phe Phe Gly  Leu Ala Phe
   2090             2095              2100


Pro Gly  Ser Val Pro Lys Glu  Lys His Arg Asn Met  Leu Gln Tyr
   2105             2110              2115
```

Gln Leu Pro Ser Ser Leu Ser Ser Leu Ala Arg Ile Phe Ser Ile
  2120   2125   2130

Leu Ser Gln Ser Lys Lys Arg Leu His Ile Glu Asp Tyr Ser Val
  2135   2140   2145

Ser Gln Thr Thr Leu Asp Gln Val Phe Val Asn Phe Ala Lys Asp
  2150   2155   2160

Gln Ser Asp Asp Asp His Leu Lys Asp Leu Ser Leu His Lys Asn
  2165   2170   2175

Gln Thr Val Val Asp Val Ala Val Leu Thr Ser Phe Leu Gln Asp
  2180   2185   2190

Glu Lys Val Lys Glu Ser Tyr Val
  2195   2200

<210> 3

<211> 1130

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (8)..(8)

<223> Unknown

<220>

<221> misc_feature

<222> (109)..(109)

<223> Unknown

<220>

<221> misc_feature

<222> (360)..(360)

<223> Unknown

<220>

<221> misc_feature

<222> (586)..(586)

<223> Unknown

<220>

<221> misc_feature

<222> (1040)..(1040)

<223> Unknown

<220>

<221> misc_feature

<222> (636)..(638)

<223> Unknown

<400> 3
gccaatgnca cggtttcatc atggaactcc aggacggcta cagcacagag acaggggaga   60

agggcgccca gctgtcaggt ggccagaagc agcgggtggc catggccgng gctctggtgc   120

ggaaccccccc agtcctcatc ctggatgaag ccaccagcgc tttggatgcc gagagcgagt   180

atctgatcca gcaggccatc catggcaacc tgtcagaagc acacggtact catcatcgcg   240

caccggctga gcaccgtgga gcacgcgcac ctcattgtgg tgctggacaa gggccgcgta   300

gtgcagcagg gcacccacca gcagcttgct tgccccaggg cgggctttta cggcaagctn   360

gttgcagcgg cagatgtggg gtttcaaggc cgcagacttc acagctggcc acaacgagcc   420

tgtagccaac gggtcacaag gcctgatggg gggcccctcc ttcgcccggt ggcagaggac   480

ccggtgcctg cctggcagat gtgcccacgg aggtttccag ctgccctacc gagcccaggc   540

ctgcagcact gaaagacgac ctgccatgtc ccatgatcac cgcttntgca atcttgcccc   600

tggtccctgc cccattccca gggcactctt accccnnnct gggggatgtc caagagcata   660

gtcctctccc catacccctc cagagaaggg gcttccctgt ccggagggag acacggggaa   720

cgggattttc cgtctctccc tcttgccagc tctgtgagtc tggccagggc gggtagggag   780

cgtggagggc atctgtctgc caattgcccg ctgccaatct aagccagtct cactgtgacc   840

acacgaaacc tcaactgggg gagtgaggag ctggccaggt ctggaggggc ctcaggtgcc   900

cccagcccgg cacccagctt tcgcccctcg tcaatcaacc cctggctggc agccgccctc   960

cccacacccg cccctgtgct ctgctgtctg gaggccacgt ggaccttcat gagatgcatt   1020

ctcttctgtc tttggtggan gggatggtgc aaagcccagg atctggcttt gccagaggtt   1080

gcaacatgtt gagagaaccc ggtcaataaa gtgtactacc tcttacccct   1130

<210> 4

<211> 1304

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (944)..(944)

<223> Unknown

<220>

<221> misc_feature

<222> (950)..(950)

<223> Unknown

<220>

<221> misc_feature

<222> (957)..(957)

<223> Unknown

<220>

<221> misc_feature

<222> (970)..(970)

<223> Unknown

<220>

<221> misc_feature

<222> (1001)..(1003)

<223> Unknown

<220>

<221> misc_feature

<222> (1007)..(1007)

<223> Unknown

<400> 4
tcttagatga gaaacctgtt ataattgcca gctgtctaca caaagaatat gcaggccaga   60

agaaaagttg cttttcaaag aggaagaaga aaatagcagc aagaaatatc tctttctgtg   120

ttcaagaagg tgaaattttg ggattgctag gacccaatgg tgctggaaaa agttcatcta   180

ttagaatgat atctgggatc acaaagccaa ctgctggaga ggtggaactg aaaggctgca   240

gttcagtttt gggccacctg gggtactgcc ctcaagagaa cgtgctgtgg cccatgctga   300

cgttgaggga acacctggag gtgtatgctg ccgtcaaggg gctcaggaaa gcggacgcga   360

ggctcgccat cgcaagatta gtgagtgctt tcaaactgca tgagcagctg aatgttcctg   420

tgcagaaatt aacagcagga atcacgagaa agttgtgttt tgtgctgagc ctcctgggaa   480

actcacctgt cttgctcctg gatgaaccat ctacgggcat aaccccacag ggcagcagca   540

aatgttggca ggcaatccag gcagtcgtta aaaacacaga gagaggtgtc ctcctgacca   600

cccataacct ggctgaggcg gaagccttgt gtgaccgtgt ggccatcatg gtgtctggaa   660

ggcttagatg cattggctcc atccaacacc tgaaaaacaa acttggcaag gattacattc   720

tagagctaaa agtgaaggaa acgtctcaag tgactttggt ccacactgag attctgaagc   780

ttttcccaca ggctgcaggg caggaaaggt attcctcttt gttaacctat aagctgcccc   840

gtggcagacg tttaccctct atcacagacc tttcacaaat tagaagcagt gaaagcataa   900

ctttaacctg gaagaataca gcctttctcc agtgcacact gganaaggtn tccttanaac   960

cttcctaaan aacaggaagt taggaaattt tgaatgaaaa nnnaccnccc cccctcattc   1020

aggtggaacc ttaaaacctc aaacctagta attttttgtt gatctcctat aaaacttatg   1080

ttttatgtaa taattaatag tatgtttaat tttaaagatc atttaaaatt aacatcaggt   1140

atattttgta aatttagtta acaaatacat aaattttaaa attattcttc ctctcaaaca   1200

taggggtgat agcaaacctg tgataaaggc aatacaaaat attagtaaag tcacccaaag   1260

agtcaggcac tgggtattgt ggaaataaaa ctatataaac ttaa   1304

<210> 5

<211> 65

<212> PRT

<213> Homo sapiens

<400> 5

Val Ser Phe Asp Thr Ile Pro Thr Tyr Leu Gln Trp Met Ser Tyr Ile
1   5   10   15

Ser Tyr Val Arg Tyr Gly Phe Glu Gly Val Ile Leu Ser Ile Tyr Gly
        20   25   30

Leu Asp Arg Glu Asp Leu His Cys Asp Ile Asp Glu Thr Cys His Phe
        35   40   45

Gln Lys Ser Glu Ala Ile Leu Arg Glu Leu Asp Val Glu Asn Ala Lys
        50   55   60

Leu
65

<210> 6

<211> 4864

<212> DNA

<213> Homo sapiens

<400> 6
atagaaagagt cttcgttcca gacgcagtcc aggaatcatg ctggagaagt tctgcaactc   60

tacttttttgg aattcctcat tcctggacag tccggaggca gacctgccac tttgtttttga   120

gcaaactgtt ctggtgtgga ttcccttggg cttcctatgg ctcctggccc cctggcagct   180

tctccacgtg tataaatcca ggaccaagag atcctctacc accaaactct atcttgctaa   240

gcaggtattc gttggttttc ttcttattct agcagccata gagctggccc ttgtactcac   300

agaagactct ggacaagcca cagtccctgc tgttcgatat accaatccaa gcctctacct   360

aggcacatgg ctcctggttt tgctgatcca atacagcaga caatggtgtg tacagaaaaa   420

ctcctggttc ctgtccctat tctggattct ctcgatactc tgtggcactt tccaatttca   480

gactctgatc cggacactct acagggtga caattctaat ctagcctact cctgcctgtt   540

cttcatctcc tacggattcc agatcctgat cctgatcttt tcagcatttt cagaaaataa   600

tgagtcatca aataatccat catccatagc ttcattcctg agtagcatta cctacagctg   660

gtatgacagc atcattctga aaggctacaa gcgtcctctg acactcgagg atgtctggga   720

agttgatgaa gagatgaaaa ccaagacatt agtgagcaag tttgaaacgc acatgaagag   780

agagctgcag aaagccaggc gggcactcca gagacggcag gagaagagct cccagcagaa   840

ctctggagcc aggctgcctg gcttgaacaa gaatcagagt caaagccaag atgcccttgt   900

cctggaagat gttgaaaaga aaaaaaagaa gtctgggacc aaaaaagatg ttccaaaatc   960

ctggttgatg aaggctctgt tcaaaacttt ctacatggtg ctcctgaaat cattcctact   1020

gaagctagtg aatgacatct tcacgtttgt gagtcctcag ctgctgaaat tgctgatctc   1080

ctttgcaagt gaccgtgaca catatttgtg gattggatat ctctgtgcaa tcctcttatt   1140

cactgcggct ctcattcagt ctttctgcct tcagtgttat ttccaactgt gcttcaagct   1200

gggtgtaaaa gtacggacag ctatcatggc ttctgtatat aagaaggcat tgaccctatc   1260

caacttggcc aggaaggagt acaccgttgg agaaacagtg aacctgatgt ctgtggatgc   1320

ccagaagctc atggatgtga ccaacttcat gcacatgctg tggtcaagtg ttctacagat   1380

tgtcttatct atcttcttcc tatggagaga gttgggaccc tcagtcttag caggtgttgg   1440

ggtgatggtg cttgtaatcc caattaatgc gatactgtcc accaagagta agaccattca   1500

ggtcaaaaat atgaagaata aagacaaacg tttaaagatc atgaatgaga ttcttagtgg   1560

aatcaagatc ctgaaatatt ttgcctggga accttcattc agagaccaag tacaaaacct   1620

ccggaagaaa gagctcaaga acctgctggc ctttagtcaa ctacagtgtg tagtaatatt   1680

cgtcttccag ttaactccag tcctggtatc tgtggtcaca ttttctgttt atgtcctggt   1740

ggatagcaac aatattttgg atgcacaaaa ggccttcacc tccattaccc tcttcaatat   1800

cctgcgctttt cccctgagca tgcttcccat gatgatctcc tccatgctcc aggccagtgt   1860

ttccacagag cggctagaga agtacttggg aggggatgac ttggacacat ctgccattcg   1920

acatagctgc aattttgaca aagccatgca gttttctgag gcctccttta cctgggaaca   1980

tgattcggaa gccacagtcc gagatgtgaa cctggacatt atggcaggcc aacttgtggc   2040

tgtgataggc cctgtcggct ctgggaaatc ctccttgata tcagccatgc tgggagaaat   2100

ggaaaatgtc cacgggcaca tcaccatcaa gggcaccact gcctatgtcc cacagcagtc   2160

ctggattcag aatggcacca taaaggacaa catccttttt ggaacagagt ttaatgaaaa   2220

gaggtaccag caagtactgg aggcctgtgc tctcctccca gacttggaaa tgctgcctgg   2280

aggagatttg gctgagattg gagagaaggg tataaatctt agtgggggtc agaagcagcg   2340

gatcagcctg gccagagcta cctaccaaaa tttagacatc tatcttctag atgaccccct   2400

gtctgcagtg gatgctcatg taggaaaaca tattttttaat aaggtcttgg gccccaatgg   2460

cctgttgaaa ggcaagactc gactcttggt tacacatagc atgcactttc ttcctcaagt   2520

ggatgagatt gtagttctgg ggaatggaac aattgtagag aaaggatcct acagtgctct   2580

cctggccaaa aaaggagagt ttgctaagaa tctgaagaca tttctaagac atacaggccc   2640

tgaagaggaa gccacagtcc atgatggcag tgaagaagaa gcagatgact atgggctgat   2700

atccagtgtg gaagagatcc ccgaagatgc agcctccata accatgagaa gagagaacag   2760

ctttcgtcga acacttagcc gcagttctag gtccaatggc aggcatctga agtccctgag   2820

aaactccttg aaaactcgga atgtgaatag cctgaaggaa gacgaagaac tagtgaaagg   2880

acaaaaacta attaagaagg aattcataga aactggaaag gtgaagttct ccatctacct   2940

ggagtaccta caagcaatag gattgttttc gatattcttc atcatccttg cgtttgtgat   3000

gaattctgtg gcttttattg gatccaacct ctggctcagt gcttggacca gtgactctaa   3060

aatcttcaat agcaccgact atccagcatc tcagagggac atgagagttg gagtctacgg   3120

agctctggga ttagcccaag gtatatttgt gttcatagca catttctgga gtgcctttgg   3180

tttcgtccat gcatcaaata tcttgcacaa gcaactgctg aacaatatcc ttcgagcacc   3240

tatgagattt tttgacacaa cacccacagg ccggattgtg aacaggtttg ccggcgatat   3300

ttccacagtg gatgacaccc tgcctcagtc cttgcgcacg tggattacat gcttcctggg   3360

gataatcagc acccttgtca tgatctgcat ggccactcct gtcttcacca tcatcgtcat   3420

tcctcttggc attatttatg tatctgttca gatgtttttat gtgtctacct cccgccagct   3480

gaggcgtctg gactctgtca ccaggtcccc aatctactct cacttcagcg agaccgtatc   3540

aggtttgcca gttatccgtg cctttgagca ccagcagcga tttctgaaac acaatgaggt   3600

gaggattgac accaaccaga aatgtgtctt ttcctggatc acctccaaca ggtggcttgc   3660

aattcgcctg gagctggttg ggaacctgac tgtcttcttt tcagccttga tgatggttat   3720

ttatagagat accctaagtg gggacactgt tggctttgtt ctgtccaatg cactcaatat   3780

cacacaaacc ctgaactggc tggtgaggat gacatcagaa atagagacca acattgtggc   3840

tgttgagcga ataactgagt acacaaaagt ggaaaatgag gcaccctggg tgactgataa   3900

gaggcctccg ccagattggc ccagcaaagg caagatccag tttaacaact accaagtgcg   3960

gtaccgacct gagctggatc tggtcctcag agggatcact tgtgacatcg gtagcatgga   4020

gaagattggt gtggtgggca ggacaggagc tggaaagtca tccctcacaa actgcctctt   4080

cagaatctta gaggctgccg gtggtcagat tatcattgat ggagtagata ttgcttccat   4140

tgggctccac gacctccgag agaagctgac catcatcccc caggaccca tcctgttctc   4200

tggaagcctg aggatgaatc tcgacccttt caacaactac tcagatgagg agatttggaa   4260

ggccttggag ctggctcacc tcaagtcttt tgtggccagc ctgcaacttg ggttatccca   4320

cgaaggtaca gaggctggtg gcaacctgag cataggccag aggcagctgc tgtgcctggg   4380

cagggctctg cttcggaaat ccaagatcct ggtcctggat gaggccactg ctgcggtgga   4440

tctagagaca gacaacctca ttcagacgac catccaaaac gagttcgccc actgcacagt   4500

gatcaccatc gcccacaggc tgcacaccat catggacagt gacaaggtaa tggtcctaga   4560

caacgggaag attatagagt gcggcagccc tgaagaactg ctacaaatcc ctggaccctt   4620

ttactttatg gctaaggaag ctggcattga gaatgtgaac agcacaaaat tctagcagaa   4680

ggccccatgg gttagaaaag gactataaga ataatttctt atttaatttt attttttata   4740

aaatacagaa tacatacaaa agtgtgtata aaatgtacgt tttaaaaaag gataagtgaa   4800

cacccatgaa cctactaccc aggttaagaa aataaatgtc accaggtact tgaaaaaaaa   4860

aaaa   4864

<210> 7

<211> 4646

<212> DNA

<213> Homo sapiens

<400> 7
cctactctat tcagatattc tccagattcc taaagattag agatcatttc tcattctcct   60

aggagtactc acttcaggaa gcaaccagat aaaagagagg tgcaacggaa gccagaacat   120

tcctcctgga aattcaacct gtttcgcagt ttctcgagga atcagcattc agtcaatccg   180

ggccgggagc agtcatctgt ggtgaggctg attggctggg caggaacagc gccggggcgt   240

gggctgagca cagcgcttcg ctctctttgc cacaggaagc ctgagctcat tcgagtagcg   300

gctcttccaa gctcaaagaa gcagaggccg ctgttcgttt cctttaggtc tttccactaa   360

agtcggagta tcttcttcca agatttcacg tcttggtggc cgttccaagg agcgcgaggt   420

cgggatggat cttgaagggg accgcaatgg aggagcaaag aagaagaact tttttaaact   480

gaacaataaa agtgaaaaag ataagaagga aaagaaacca actgtcagtg tattttcaat   540

gtttcgctat tcaaattggc ttgacaagtt gtatatggtg gtgggaactt tggctgccat   600

catccatggg gctggacttc ctctcatgat gctggtgttt ggagaaatga cagatatctt   660

tgcaaatgca ggaaatttag aagatctgat gtcaaacatc actaatagaa gtgatatcaa   720

tgatacaggg ttcttcatga atctggagga agacatgacc aggtatgcct attattacag   780

tggaattggt gctggggtgc tggttgctgc ttacattcag gtttcatttt ggtgcctggc   840

agctggaaga caaatacaca aaattagaaa acagtttttt catgctataa tgcgacagga   900

gataggctgg tttgatgtgc acgatgttgg ggagcttaac acccgactta cagatgatgt   960

ctctaagatt aatgaagtta ttggtgacaa aattggaatg ttctttcagt caatggcaac   1020

atttttcact gggtttatag taggatttac acgtggttgg aagctaaccc ttgtgatttt   1080

ggccatcagt cctgttcttg gactgtcagc tgctgtctgg gcaaagatac tatcttcatt   1140

tactgataaa gaactcttag cgtatgcaaa agctggagca gtagctgaag aggtcttggc   1200

agcaattaga actgtgattg catttggagg acaaaagaaa gaacttgaaa ggtacaacaa   1260

aaatttagaa gaagctaaaa gaattgggat aaagaaagct attacagcca atatttctat   1320

aggtgctgct ttcctgctga tctatgcatc ttatgctctg gccttctggt atgggaccac   1380

cttggtcctc tcaggggaat attctattgg acaagtactc actgtattct tttctgtatt   1440

aattgggggct tttagtgttg gacaggcatc tccaagcatt gaagcatttg caaatgcaag   1500

aggagcagct tatgaaatct tcaagataat tgataataag ccaagtattg acagctattc   1560

gaagagtggg cacaaaccag ataatattaa gggaaatttg gaattcagaa atgttcactt   1620

cagttaccca tctcgaaaag aagttaagat cttgaagggc ctgaacctga aggtgcagag   1680

tgggcagacg gtggccctgg ttggaaacag tggctgtggg aagagcacaa cagtccagct   1740

gatgcagagg ctctatgacc ccacagaggg gatggtcagt gttgatggac aggatattag   1800

gaccataaat gtaaggtttc tacgggaaat cattggtgtg gtgagtcagg aacctgtatt   1860

gtttgccacc acgatagctg aaaacattcg ctatggccgt gaaaatgtca ccatggatga   1920

gattgagaaa gctgtcaagg aagccaatgc ctatgacttt atcatgaaac tgcctcataa   1980

atttgacacc ctggttggag agagaggggc ccagttgagt ggtgggcaga agcagaggat   2040

cgccattgca cgtgccctgg ttcgcaaccc caagatcctc ctgctggatg aggccacgtc   2100

agccttggac acagaaagcg aagcagtggt tcaggtggct ctggataagg ccagaaaagg   2160

tcggaccacc attgtgatag ctcatcgttt gtctacagtt cgtaatgctg acgtcatcgc   2220

tggtttcgat gatggagtca ttgtggagaa aggaaatcat gatgaactca tgaaagagaa   2280

aggcatttac ttcaaacttg tcacaatgca gacagcagga aatgaagttg aattagaaaa   2340

tgcagctgat gaatccaaaa gtgaaattga tgccttggaa atgtcttcaa atgattcaag   2400

atccagtcta ataagaaaaa gatcaactcg taggagtgtc cgtggatcac aagcccaaga   2460

cagaaagctt agtaccaaag aggctctgga tgaaagtata cctccagttt cctttttggag   2520

gattatgaag ctaaatttaa ctgaatggcc ttattttgtt gttggtgtat tttgtgccat   2580

tataaatgga ggcctgcaac cagcatttgc aataatattt tcaaagatta taggggtttt   2640

tacaagaatt gatgatcctg aaacaaaacg acagaatagt aacttgtttt cactattgtt   2700

tctagccctt ggaattattt cttttattac atttttcctt cagggtttca catttggcaa   2760

agctggagag atcctcacca agcggctccg atacatggtt ttccgatcca tgctcagaca   2820

ggatgtgagt tggtttgatg accctaaaaa caccactgga gcattgacta ccaggctcgc   2880

caatgatgct gctcaagtta aaggggctat aggttccagg cttgctgtaa ttacccagaa   2940

tatagcaaat cttgggacag gaataattat atccttcatc tatggttggc aactaacact   3000

gttactctta gcaattgtac ccatcattgc aatagcagga gttgttgaaa tgaaaatgtt   3060

gtctggacaa gcactgaaag ataagaaaga actagaaggt gctgggaaga tcgctactga   3120

agcaatagaa aacttccgaa ccgttgtttc tttgactcag gagcagaagt ttgaacatat   3180

gtatgctcag agtttgcagg taccatacag aaactctttg aggaaagcac acatctttgg   3240

aattacattt tccttcaccc aggcaatgat gtatttttcc tatgctggat gtttccggtt   3300

tggagcctac ttggtggcac ataaactcat gagctttgag gatgttctgt tagtattttc   3360

agctgttgtc tttggtgcca tggccgtggg gcaagtcagt tcatttgctc ctgactatgc   3420

caaagccaaa atatcagcag cccacatcat catgatcatt gaaaaaaccc ctttgattga   3480

cagctacagc acggaaggcc taatgccgaa cacattggaa ggaaatgtca catttggtga   3540

agttgtattc aactatccca cccgaccgga catcccagtg cttcagggac tgagcctgga   3600

ggtgaagaag ggccagacgc tggctctggt gggcagcagt ggctgtggga agagcacagt   3660

ggtccagctc ctggagcggt tctacgaccc cttggcaggg aaagtgctgc ttgatggcaa   3720

agaaataaag cgactgaatg ttcagtggct ccgagcacac ctgggcatcg tgtcccagga   3780

gcccatcctg tttgactgca gcattgctga gaacattgcc tatggagaca acagccgggt   3840

ggtgtcacag gaagagatcg tgagggcagc aaaggaggcc aacatacatg ccttcatcga   3900

gtcactgcct aataaatata gcactaaagt aggagacaaa ggaactcagc tctctggtgg   3960

ccagaaacaa cgcattgcca tagctcgtgc ccttgttaga cagcctcata ttttgctttt   4020

ggatgaagcc acgtcagctc tggatacaga aagtgaaaag gttgtccaag aagccctgga   4080

caaagccaga gaaggccgca cctgcattgt gattgctcac cgcctgtcca ccatccagaa   4140

tgcagactta atagtggtgt ttcagaatgg cagagtcaag gagcatggca cgcatcagca   4200

gctgctggca cagaaaggca tctatttttc aatggtcagt gtccaggctg aacaaagcg   4260

ccagtgaact ctgactgtat gagatgttaa atactttta atatttgttt agatatgaca   4320

tttattcaaa gttaaaagca aacacttaca gaattatgaa gaggtatctg tttaacattt   4380

cctcagtcaa gttcagagtc ttcagagact tcgtaattaa aggaacagag tgagagacat   4440

catcaagtgg agagaaatca tagtttaaac tgcattataa attttataac agaattaaag   4500

tagattttaa aagataaaat gtgtaatttt gtttatattt tcccatttgg actgtaactg   4560

actgccttgc taaaagatta tagaagtagc aaaaagtatt gaaatgtttg cataaagtgt · 4620

ctataataaa actaaacttt catgtg   4646

<210> 8

<211> 864

<212> DNA

<213> Homo sapiens

<400> 8
aaatggacca gatccggtgc tgctaagagg gctgcctgcc tggtggctgc ggcatatgct   60

ctgaaaaccc tctatcccat cattggcaag cgtttaaagc aatctggcca cgggaagaaa   120

aaagcagcag cttaccctgc tgcagagaac acagaaatac tgcattgcac cgagaccatt   180

tgtgaaaaac cttcgcctgg agtgaatgca gatttcttca aacagctact agaacttcgg   240

aaaattttgt ttccaaaact tgtgaccact gaaacagggt ggctctgcct gcactcagtg   300

gctctaatct caagaacctt tctttctatc tatgtggctg gtctggatgg aaaaatcgtg   360

aaaagcattg tggaaaagaa gcctcggact ttcatcatca aattaatcaa gtggcttatg   420

attgccatcc ctgctacctt cgtcaacagt gcaataaggt acctggaatg caaattggct   480

ttggccttca gaactcgcct agtagaccac gcctatgaaa cctattttac aaatcagact   540

tattataaag tgatcaatat ggatgggagg ctggcaaacc ctgaccaatc tcttacggag   600

gatattatga tgttctccca atctgtggct cacttgtatt ccaatctgac caaacctatt   660

ttagatgtaa tgctgacctc ctatacactc attcaaactg ctacatccag aggagcaagc   720

ccaattgggc ccaccctact agcaggactt gtggtgtatg ccactgctaa agtgttaaaa   780

gcctgttctc ccaaatttgg caaactggtg gcagaggaag cacatagaaa aggctatttg   840

cggtatgtgc actcgagaat tata   864

<210> 9

<211> 2750

<212> DNA

<213> Homo sapiens

<400> 9
gcggacggac gcgcctggtg ccccgggggag gggcgccacc gggggaggag gaggaggaga   60

aggtggagag gaagagacgc cccctctgcc cgagacctct caaggccctg acctcagggg   120

ccagggcact gacaggacag gagagccaag ttcctccact tgggctgccc gaagaggccg   180

cgaccctgga gggccctgag cccaccgcac caggggcccc agcaccaccc cgggggccta   240

aagcgacagt ctcaggggcc atcgcaaggt ttccagttgc ctagacaaca ggcccagggt   300

cagagcaaca atccttccag ccacctgcct caactgctgc cccaggcacc agccccagtc   360

cctacgcggc agccagccca ggtgacatgc cggtgctctc caggccccgg ccctggcggg   420

ggaacacgct gaagcgcacg gccgtgctcc tggccctcgc ggcctatgga gcccacaaag   480

tctaccccctt ggtgcgccag tgcctggccc cggccagggg tcttcaggcg cccgccgggg   540

agcccacgca ggaggcctcc ggggtcgcgg cggccaaagc tggcatgaac cgggtattcc   600

tgcagcggct cctgtggctc ctgcggctgc tgttcccccg ggtcctgtgc cgggagacgg   660

ggctgctggc cctgcactcg gccgccttgg tgagccgcac cttcctgtcg gtgtatgtgg   720

cccgcctgga cggaaggctg gcccgctgca tcgcccgcaa ggacccgcgg gcttttggct   780

ggcagctgct gcagtggctc ctcatcgccc tccctgctac cttcgtcaac agtgccatcc   840

gttacctgga gggccaactg gccctgtcgt tccgcagccg tctggtggcc cacgcctacc   900

gcctctactt ctcccagcag acctactacc gggtcagcaa catggacggg cggcttcgca   960

accctgacca gtctctgacg gaggacgtgg tggcctttgc ggcctctgtg gcccacctct 1020

actccaacct gaccaagcca ctcctggacg tggctgtgac ttcctacacc ctgcttcggg 1080

cggcccgctc ccgtggagcc ggcacagcct ggccctcggc catcgccggc ctcgtggtgt 1140

tcctcacggc caacgtgctg cgggccttct cgcccaagtt cggggagctg gtggcagagg 1200

aggcgcggcg gaagggggag ctgcgctaca tgcactcgcg tgtggtggcc aactcggagg 1260

agatcgcctt ctatgggggc catgaggtgg agctggccct gctacagcgc tcctaccagg 1320

acctggcctc gcagatcaac ctcatccttc tggaacgcct gtggtatgtt atgctggagc   1380

agttcctcat gaagtatgtg tggagcgcct cgggcctgct catggtggct gtccccatca   1440

tcactgccac tggctactca gagtcagatg cagaggccgt gaagaaggca gccttggaaa   1500

agaaggagga ggagctggtg agcgagcgca cagaagcctt cactattgcc cgcaacctcc   1560

tgacagcggc tgcagatgcc attgagcgga tcatgtcgtc gtacaaggag gtgacggagc   1620

tggctggcta cacagcccgg gtgcacgaga tgttccaggt atttgaagat gttcagcgct   1680

gtcacttcaa gaggcccagg gagctagagg acgctcaggc ggggtctggg accataggcc   1740

ggtctggtgt ccgtgtggag ggccccctga agatccgagg ccaggtggtg gatgtggaac   1800

aggggatcat ctgcgagaac atccccatcg tcacgccctc aggagaggtg gtggtggcca   1860

gcctcaacat cagggtggag gaaggcatgc atctgctcat cacaggcccc aatggctgcg   1920

gcaagagctc cctgttccgg atcctgggtg ggctctggcc cacgtacggt ggtgtgctct   1980

acaagccccc accccagcgc atgttctaca tcccgcagag gccctacatg tctgtgggct   2040

ccctgcgtga ccaggtgatc tacccggact cagtggagga catgcaaagg aagggctact   2100

cggagcagga cctggaagcc atcctggacg tcgtgcacct gcaccacatc ctgcagcggg   2160

agggaggttg ggaggctatg tgtgactgga aggacgtcct gtcgggtggc gagaagcaga   2220

gaatcggcat ggcccgcatg ttctaccaca ggcccaagta cgccctcctg gatgaatgca   2280

ccagcgccgt gagcatcgac gtggaaggca agatcttcca ggcggccaag gacgcgggca   2340

ttgccctgct ctccatcacc accggcccct ccctgtggaa ataccacaca cacttgctac   2400

agttcgatgg ggagggcggc tggaagttcg agaagctgga ctcagctgcc cgcctgagcc   2460

tgacggagga gaagcagcgg ctggagcagc agctggcggg cattcccaag atgcagcggc   2520

gcctccagga gctctgccag atcctgggcg aggccgtggc cccagcgcat gtgccggcac   2580

ctagcccgca aggccctggt ggcctccagg gtgcctccac ctgacacaac cgtccccggc   2640

ccctgccccg cccccaagct cggatcacat gaaggagaca gcagcaccca cccatgcacg   2700

cacccgccc ctgcatgcct ggcccctcct cctagaaaac ccttcccgcc   2750

<210> 10

<211> 5011

<212> DNA

<213> Homo sapiens

<400> 10

```
ccaggcggcg ttgcggcccc ggccccggct ccctgcgccg ccgccgccgc cgccgccgcc   60

gccgccgccg ccgccgccag cgctagcgcc agcagccggg cccgatcacc cgccgcccgg   120

tgcccgccgc cgcccgcgcc agcaaccggg cccgatcacc cgccgcccgg tgcccgccgc   180

cgcccgcgcc accggcatgg cgctccgggg cttctgcagc gccgatggct ccgacccgct   240

ctgggactgg aatgtcacgt ggaataccag caaccccgac ttcaccaagt gctttcagaa   300

cacggtcctc gtgtgggtgc cttgttttta cctctgggcc tgtttcccct tctacttcct   360

ctatctctcc cgacatgacc gaggctacat tcagatgaca cctctcaaca aaaccaaaac   420

tgccttggga ttttgctgt ggatcgtctg ctgggcagac ctcttctact ctttctggga   480

aagaagtcgg ggcatattcc tggccccagt gtttctggtc agcccaactc tcttgggcat   540

caccacgctg cttgctacct tttaattca gctggagagg aggaagggag ttcagtcttc   600

agggatcatg ctcactttct ggctggtagc cctagtgtgt gccctagcca tcctgagatc   660

caaaattatg acagccttaa aagaggatgc ccaggtggac ctgtttcgtg acatcacttt   720

ctacgtctac ttttccctct tactcattca gctcgtcttg tcctgtttct cagatcgctc   780

acccctgttc tcggaaacca tccacgaccc taatccctgc ccagagtcca gcgcttcctt   840

cctgtcgagg atcaccttct ggtggatcac agggttgatt gtccggggct accgccagcc   900

cctggagggc agtgacctct ggtccttaaa caaggaggac acgtcggaac aagtcgtgcc   960

tgttttggta aagaactgga agaaggaatg cgccaagact aggaagcagc cggtgaaggt   1020

tgtgtactcc tccaaggatc ctgcccagcc gaaagagagt tccaaggtgg atgcgaatga   1080

ggaggtggag gctttgatcg tcaagtcccc acagaaggag tggaacccct ctctgtttaa   1140

ggtgttatac aagacctttg ggccctactt cctcatgagc ttcttcttca aggccatcca   1200

cgacctgatg atgtttttccg ggccgcagat cttaaagttg ctcatcaagt tcgtgaatga   1260

cacgaaggcc ccagactggc agggctactt ctacaccgtg ctgctgtttg tcactgcctg   1320

cctgcagacc ctcgtgctgc accagtactt ccacatctgc ttcgtcagtg gcatgaggat   1380

caagaccgct gtcattgggg ctgtctatcg gaaggccctg gtgatcacca attcagccag   1440

aaaatcctcc acggtcgggg agattgtcaa cctcatgtct gtggacgctc agaggttcat   1500
```

ggacttggcc acgtacatta acatgatctg gtcagccccc ctgcaagtca tccttgctct   1560

ctacctcctg tggctgaatc tgggcccttc cgtcctggct ggagtggcgg tgatggtcct   1620

catggtgccc gtcaatgctg tgatggcgat gaagaccaag acgtatcagg tggcccacat   1680

gaagagcaaa gacaatcgga tcaagctgat gaacgaaatt ctcaatggga tcaaagtgct   1740

aaagctttat gcctgggagc tggcattcaa ggacaaggtg ctggccatca ggcaggagga   1800

gctgaaggtg ctgaagaagt ctgcctacct gtcagccgtg ggcaccttca cctgggtctg   1860

cacgcccttt ctggtggcct tgtgcacatt tgccgtctac gtgaccattg acagaacaa   1920

catcctggat gcccagacag ccttcgtgtc tttggccttg ttcaacatcc tccggtttcc   1980

cctgaacatt ctccccatgg tcatcagcag catcgtgcag gcgagtgtct ccctcaaacg   2040

cctgaggatc tttctctccc atgaggagct ggaacctgac agcatcgagc gacggcctgt   2100

caaagacggc gggggcacga acagcatcac cgtgaggaat gccacattca cctgggccag   2160

gagcgaccct cccacactga atggcatcac cttctccatc cccgaaggtg ctttggtggc   2220

cgtggtgggc caggtgggct gcggaaagtc gtccctgctc tcagccctct tggctgagat   2280

ggacaaagtg gaggggcacg tggctatcaa gggctccgtg gcctatgtgc cacagcaggc   2340

ctggattcag aatgattctc tccgagaaaa catcctttt ggatgtcagc tggaggaacc   2400

atattacagg tccgtgatac aggcctgtgc cctcctccca gacctggaaa tcctgcccag   2460

tggggatcgg acagagattg gcgagaaggg cgtgaacctg tctgggggcc agaagcagcg   2520

cgtgagcctg gcccgggccg tgtactccaa cgctgacatt tacctcttcg atgatcccct   2580

ctcagcagtg gatgcccatg tgggaaaaca catctttgaa aatgtgattg gccccaaggg   2640

gatgctgaag aacaagacgc ggatcttggt cacgcacagc atgagctact tgccgcaggt   2700

ggacgtcatc atcgtcatga gtggcggcaa gatctctgag atgggctcct accaggagct   2760

gctggctcga gacggcgcct tcgctgagtt cctgcgtacc tatgccagca cagagcagga   2820

gcaggatgca gaggagaacg gggtcacggg cgtcagcggt ccagggaagg aagcaaagca   2880

aatggagaat ggcatgctgg tgacggacag tgcagggaag caactgcaga gacagctcag   2940

cagctcctcc tcctatagtg gggacatcag caggcaccac aacagcaccg cagaactgca   3000

gaaagctgag gccaagaagg aggagacctg gaagctgatg gaggctgaca aggcgcagac   3060

agggcaggtc aagctttccg tgtactggga ctacatgaag gccatcggac tcttcatctc   3120

cttcctcagc atcttccttt tcatgtgtaa ccatgtgtcc gcgctggctt ccaactattg   3180

```
gctcagcctc tggactgatg accccatcgt caacgggact caggagcaca cgaaagtccg   3240

gctgagcgtc tatggagccc tgggcatttc acaagggatc gccgtgtttg gctactccat   3300

ggccgtgtcc atcgggggga tcttggcttc ccgctgtctg cacgtggacc tgctgcacag   3360

catcctgcgg tcacccatga gcttctttga gcggacccccc agtgggaacc tggtgaaccg   3420

cttctccaag gagctggaca cagtggactc catgatcccg gaggtcatca agatgttcat   3480

gggctccctg ttcaacgtca ttggtgcctg catcgttatc ctgctggcca cgcccatcgc   3540

cgccatcatc atcccgcccc ttggcctcat ctacttcttc gtccagaggt tctacgtggc   3600

ttcctcccgg cagctgaagc gcctcgagtc ggtcagccgc tccccggtct attcccattt   3660

caacgagacc ttgctgggggg tcagcgtcat tcgagccttc gaggagcagg agcgcttcat   3720

ccaccagagt gacctgaagg tggacgagaa ccagaaggcc tattacccca gcatcgtggc   3780

caacaggtgg ctggccgtgc ggctggagtg tgtgggcaac tgcatcgttc tgtttgctgc   3840

cctgtttgcg gtgatctcca ggcacagcct cagtgctggc ttggtgggcc tctcagtgtc   3900

ttactcattg caggtcacca cgtacttgaa ctggctggtt cggatgtcat ctgaaatgga   3960

aaccaacatc gtggccgtgg agaggctcaa ggagtattca gagactgaga aggaggcgcc   4020

ctggcaaatc caggagacag ctccgcccag cagctggccc caggtgggcc gagtggaatt   4080

ccggaactac tgcctgcgct accgagagga cctggacttc gttctcaggc acatcaatgt   4140

cacgatcaat ggggggagaaa aggtcggcat cgtggggcgg acgggagctg ggaagtcgtc   4200

cctgacccctg ggcttatttc ggatcaacga gtctgccgaa ggagagatca tcatcgatgg   4260

catcaacatc gccaagatcg gcctgcacga cctccgcttc aagatcacca tcatccccca   4320

ggaccctgtt ttgttttcgg gttccctccg aatgaacctg gacccattca gccagtactc   4380

ggatgaagaa gtctggacgt ccctggagct ggcccacctg aaggacttcg tgtcagccct   4440

tcctgacaag ctagaccatg aatgtgcaga aggcgggggag aacctcagtg tcgggcagcg   4500

ccagcttgtg tgcctagccc gggccctgct gaggaagacg aagatccttg tgttggatga   4560

ggccacggca gccgtggacc tggaaacgga cgacctcatc cagtccacca tccggacaca   4620

gttcgaggac tgcaccgtcc tcaccatcgc ccaccggctc aacaccatca tggactacac   4680

aagggtgatc gtcttggaca aaggagaaat ccaggagtac ggcgccccat cggacctcct   4740

gcagcagaga ggtctttttct acagcatggc caaagacgcc ggcttggtgt gagccccaga   4800

gctggcatat ctggtcagaa ctgcagggcc tatatgccag cgcccaggga ggagtcagta   4860
```

cccctggtaa accaagcctc ccacactgaa accaaaacat aaaaaccaaa cccagacaac 4920

caaaacatat tcaaagcagc agccaccgcc atccggtccc ctgcctggaa ctggctgtga 4980

agacccagga gagacagaga tgcgaaccac c   5011

<210> 11

<211> 3924

<212> DNA

<213> Homo sapiens

<400> 11
cctgccagac acgcgcgagg ttcgaggctg agatggatct tgaggcggca aagaacggaa   60

cagcctggcg ccccacgagc gcggagggcg actttgaact gggcatcagc agcaaacaaa   120

aaaggaaaaa aacgaagaca gtgaaaatga ttggagtatt aacattgttt cgatactccg   180

attggcagga taaattgttt atgtcgctgg gtaccatcat ggccatagct cacggatcag   240

gtctcccct catgatgata gtatttggag agatgactga caaatttgtt gatactgcag   300

gaaacttctc ctttccagtg aacttttcct tgtcgctgct aaatccaggc aaaattctgg   360

aagaagaaat gactagatat gcatattact actcaggatt gggtgctgga gttcttgttg   420

ctgcctatat acaagtttca ttttggactt tggcagctgg tcgacagatc aggaaaatta   480

ggcagaagtt ttttcatgct attctacgac aggaaatagg atggtttgac atcaatgaca   540

ccactgaact caatacgcgg ctaacagatg acatctccaa aatcagtgaa ggaattggtg   600

acaaggttgg aatgttcttt caagcagtag ccacgttttt tgcaggattc atagtgggat   660

tcatcagagg atggaagctc acccttgtga taatggccat cagccctatt ctaggactct   720

ctgcagccgt ttgggcaaag atactctcgg catttagtga caaagaacta gctgcttatg   780

caaaagcagg cgccgtggca gaagaggctc tgggggccat caggactgtg atagctttcg   840

ggggccagaa caaagagctg gaaaggtatc agaaacattt agaaaatgcc aaagagattg   900

gaattaaaaa agctatttca gcaaacattt ccatgggtat tgccttcctg ttaatatatg   960

catcatatgc actggccttc tggtatggat ccactctagt catatcaaaa gaatatacta   1020

ttggaaatgc aatgacagtt ttttttttcaa tcctaattgg agctttcagt gttggccagg   1080

ctgccccatg tattgatgct tttgccaatg caagaggagc agcatatgtg atctttgata   1140

ttattgataa taatcctaaa attgacagtt tttcagagag aggacacaaa ccagacagca   1200

tcaaagggaa tttggagttc aatgatgttc actttttctta cccttctcga gctaacgtca   1260

agatcttgaa gggcctcaac ctgaaggtgc agagtgggca gacggtggcc ctggttggaa   1320

gtagtggctg tgggaagagc acaacggtcc agctgataca gaggctctat gaccctgatg   1380

agggcacaat taacattgat gggcaggata ttaggaactt taatgtaaac tatctgaggg   1440

aaatcattgg tgtggtgagt caggagccgg tgctgttttc caccacaatt gctgaaaata   1500

tttgttatgg ccgtggaaat gtaaccatgg atgagataaa gaaagctgtc aaagaggcca   1560

acgcctatga gtttatcatg aaattaccac agaaatttga caccctggtt ggagagagag   1620

gggcccagct gagtggtggg cagaagcaga ggatcgccat tgcacgtgcc ctggttcgca   1680

accccaagat ccttctgctg gatgaggcca cgtcagcatt ggacacagaa agtgaagctg   1740

aggtacaggc agctctggat aaggccagag aaggccggac caccattgtg atagcacacc   1800

gactgtctac ggtccgaaat gcagatgtca tcgctgggtt tgaggatgga gtaattgtgg   1860

agcaaggaag ccacagcgaa ctgatgaaga aggaaggggt gtacttcaaa cttgtcaaca   1920

tgcagacatc aggaagccag atccagtcag aagaatttga actaaatgat gaaaaggctg   1980

ccactagaat ggccccaaat ggctggaaat ctcgcctatt taggcattct actcagaaaa   2040

accttaaaaa ttcacaaatg tgtcagaaga gccttgatgt ggaaaccgat ggacttgaag   2100

caaatgtgcc accagtgtcc tttctgaagg tcctgaaact gaataaaaca gaatggccct   2160

actttgtcgt gggaacagta tgtgccattg ccaatggggg gcttcagccg gcattttcag   2220

tcatattctc agagatcata gcgatttttg gaccaggcga tgatgcagtg aagcagcaga   2280

agtgcaacat attctctttg attttcttat ttctgggaat tatttctttt tttactttct   2340

tccttcaggg tttcacgttt gggaaagctg gcgagatcct caccagaaga ctgcggtcaa   2400

tggcttttaa agcaatgcta agacaggaca tgagctggtt tgatgaccat aaaaacagta   2460

ctggtgcact ttctacaaga cttgccacag atgctgccca agtccaagga gccacaggaa   2520

ccaggttggc tttaattgca cagaatatag ctaaccttgg aactggtatt atcatatcat   2580

ttatctacgg ttggcagtta accctattgc tattagcagt tgttccaatt attgctgtgt   2640

caggaattgt tgaaatgaaa ttgttggctg gaaatgccaa aagagataaa aaagaactgg   2700

aagctgctgg aaagattgca acagaggcaa tagaaaatat taggacagtt gtgtctttga   2760

cccaggaaag aaaatttgaa tcaatgtatg ttgaaaaatt gtatggacct tacaggaatt   2820

ctgtgcagaa ggcacacatc tatggaatta cttttagtat ctcacaagca tttatgtatt   2880

tttcctatgc cggttgtttt cgatttggtg catatctcat tgtgaatgga catatgcgct   2940

tcagagatgt tattctggtg ttttctgcaa ttgtatttgg tgcagtggct ctaggacatg   3000

ccagttcatt tgctccagac tatgctaaag ctaagctgtc tgcagcccac ttattcatgc   3060

tgtttgaaag acaacctctg attgacagct acagtgaaga ggggctgaag cctgataaat   3120

ttgaaggaaa tataacattt aatgaagtcg tgttcaacta tcccacccga gcaaacgtgc   3180

cagtgcttca ggggctgagc ctggaggtga agaaaggcca gacactagcc ctggtgggca   3240

gcagtggctg tgggaagagc acggtggtcc agctcctgga gcggttctac gacccccttgg   3300

cggggacagt gcttctcgat ggtcaagaag caaagaaact caatgtccag tggctcagag   3360

ctcaactcgg aatcgtgtct caggagccta tcctatttga ctgcagcatt gccgagaata   3420

ttgcctatgg agacaacagc cgggttgtat cacaggatga aattgtgagt gcagccaaag   3480

ctgccaacat acatcctttc atcgagacgt taccccacaa atatgaaaca agagtgggag   3540

ataaggggac tcagctctca ggaggtcaaa aacagaggat tgctattgcc cgagccctca   3600

tcagacaacc tcaaatcctc ctgttggatg aagctacatc agctctggat actgaaagtg   3660

aaaaggttgt ccaagaagcc ctggacaaag ccagagaagg ccgcacctgc attgtgattg   3720

ctcaccgcct gtccaccatc cagaatgcag acttaatagt ggtgtttcag aatgggagag   3780

tcaaggagca tggcacgcat cagcagctgc tggcacagaa aggcatctat ttttcaatgg   3840

tcagtgtcca ggctgggaca cagaacttat gaactttgc tacagtatat tttaaaaata   3900

aattcaaatt attctaccca tttt   3924

<210> 12

<211> 1725

<212> DNA

<213> Homo sapiens

<400> 12
ccttcctgtg gatccgggtg cagcagttca cgtctcggcg ggtggagctg ctcatcttct   60

cccacctgca cgagctctca ctgcgctggc acctggggcg ccgcacaggg gaggtgctgc   120

ggatcgcgga tcgggggcaca tccagtgtca cagggctgct cagctacctg gtgttcaatg   180

tcatccccac gctggccgac atcatcattg gcatcatcta cttcagcatg ttcttcaacg   240

cctggtttgg cctcattgtg ttcctgtgca tgagtcttta cctcaccctg accattgtgg   300

tcactgagtg gagaaccaag tttcgtcgtg ctatgaacac acaggagaac gctacccggg   360

cacgagcagt ggactctctg ctaaacttcg agacggtgaa gtattacaac gccgagagtt   420

acgaagtgga acgctatcga gaggccatca tcaaatatca gggtttggag tggaagtcga   480

gcgcttcact ggttttacta aatcagaccc agaacctggt gattgggctc gggctcctcg   540

ccggctccct gctttgcgca tactttgtca ctgagcagaa gctacaggtt ggggactatg   600

tgctctttgg cacctacatt atccagctgt acatgcccct caattggttt ggcacctact   660

acaggatgat ccagaccaac ttcattgaca tggagaacat gtttgacttg ctgaaagagg   720

agacagaagt gaaggacctt cctggagcag ggccccttcg ctttcagaag ggccgtattg   780

agtttgagaa cgtgcacttc agctatgccg atgggcggga gactctgcag gacgtgtctt   840

tcactgtgat gcctggacag acacttgccc tggtgggccc atctggggca gggaagagca   900

caattttgcg cctgctgttt cgcttctacg acatcagctc tggctgcatc cgaatagatg   960

ggcaggacat ttcacaggtg acccaggcct ctctccggtc tcacattgga gttgtgcccc   1020

aagacactgt cctctttaat gacaccatcg ccgacaatat ccgttacggc cgtgtcacag   1080

ctgggaatga tgaggtggag gctgctgctc aggctgcagg catccatgat gccattatgg   1140

ctttccctga agggtacagg acacaggtgg gcgagcgggg actgaagctg agcggcgggg   1200

agaagcagcg cgtcgccatt gcccgcacca tcctcaaggc tccgggcatc attctgctgg   1260

atgaggcaac gtcagcgctg gatacatcta atgagagggc catccaggct tctctggcca   1320

aagtctgtgc caaccgcacc accatcgtag tggcacacag gctctcaact gtggtcaatg   1380

ctgaccagat cctcgtcatc aaggatggct gcatcgtgga gaggggacga cacgaggctc   1440

tgttgtcccg aggtggggtg tatgctgaca tgtggcagct gcagcaggga caggaagaaa   1500

cctctgaaga cactaagcct cagaccatgg aacggtgaca aaagtttggc cacttccctc   1560

tcaaagacta acccagaagg gaataagatg tgtctccttt ccctggctta tttcatcctg   1620

gtcttggggt atggtgctag ctatggtaag ggaaagggac ctttccgaaa aacatctttt   1680

ggggaaataa aaatgtggac tgtgaaaaaa aaaaaaaaaa aaaaa   1725

<210> 13

<211> 4776

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (4210)..(4212)

<223> Unknown

<220>

<221> misc_feature

<222> (4752)..(4752)

<223> Unknown

<220>

<221> misc_feature

<222> (4227)..(4229)

<223> Unknown

<220>

<221> misc_feature

<222> (4208)..(4208)

<223> Unknown

<220>

<221> misc_feature

<222> (4231)..(4231)

<223> Unknown

<220>

<221> misc_feature

<222> (4253)..(4253)

<223> Unknown

<220>

<221> misc_feature

<222> (4677)..(4677)

<223> Unknown

<220>

<221> misc_feature

<222> (4691)..(4691)

<223> Unknown

<220>

<221> misc_feature

<222> (4707)..(4707)

<223> Unknown

<220>

<221> misc_feature

<222> (4721)..(4721)

<223> Unknown

<220>

<221> misc_feature

<222> (4752)..(4752)

<223> Unknown

<220>

<221> misc_feature

<222> (4754)..(4754)

<223> Unknown

<220>

<221> misc_feature

<222> (4772)..(4773)

<223> Unknown

<400> 13
gaatgatgaa aaccgaggtt ggaaaaggtt gtgaaacctt ttaactctcc acagtggagt   60

ccattatttc ctctggcttc ctcaaattca tattcacagg gtcgttggct gtgggttgca   120

attaccatgt ctgactcagt aattcttcga agtataaaga aatttggaga ggagaatgat   180

ggttttgagt cagataaatc atataataat gataagaaat caaggttaca agatgagaag   240

aaaggtgatg gcgttagagt tggcttcttt caattgtttc ggttttcttc atcaactgac   300

atttggctga tgtttgtggg aagtttgtgt gcatttctcc atggaatagc ccagccaggc   360

gtgctactca tttttggcac aatgacagat gtttttattg actacgacgt tgagttacaa   420

gaactccaga ttccaggaaa agcatgtgtg aataacacca ttgtatggac taacagttcc   480

ctcaaccaga acatgacaaa tggaacacgt tgtgggttgc tgaacatcga gagcgaaatg   540

atcaaatttg ccagttacta tgctggaatt gctgtcgcag tacttatcac aggatatatt   600

caaatatgct tttgggtcat tgccgcagct cgtcagatac agaaaatgag aaaattttac   660

tttaggagaa taatgagaat ggaaataggg tggtttgact gcaattcagt gggggagctg   720

aatacaagat tctctgatga tattaataaa atcaatgatg ccatagctga ccaaatggcc   780

cttttcattc agcgcatgac ctcgaccatc tgtggtttcc tgttgggatt tttcagggggt   840

tggaaactga ccttggttat tatttctgtc agccctctca ttgggattgg agcagccacc   900

attggtctga gtgtgtccaa gtttacggac tatgagctga aggcctatgc caaagcaggg   960

gtggtggctg atgaagtcat ttcatcaatg agaacagtgg ctgcttttgg tggtgagaaa   1020

agagaggttg aaaggtatga gaaaaatctt gtgttcgccc agcgttgggg aattagaaaa   1080

ggaatagtga tgggattctt tactggattc gtgtggtgtc tcatcttttt gtgttatgca   1140

gtggccttct ggtacggctc cacacttgtc ctggatgaag gagaatatac accaggaacc   1200

cttgtccaga ttttcctcag tgtcatagta ggagctttaa atcttggcaa tgcctctcct   1260

tgtttggaag cctttgcaac tggacgtgca gcagccacca gcatttttga gacaatagac   1320

aggaaaccca tcattgactg catgtcagaa gatggttaca agttggatcg aatcaagggt   1380

gaaattgaat tccataatgt gaccttccat tatccttcca gaccagaggt gaagattcta   1440

aatgacctca acatggtcat taaaccaggg gaaatgacag ctctggtagg acccagtgga   1500

gctggaaaaa gtacagcact gcaactcatt cagcgattct atgacccctg tgaaggaatg   1560

gtgaccgtgg atggccatga cattcgctct cttaacattc agtggcttag agatcagatt   1620

gggatagtgg agcaagagcc agttctgttc tctaccacca ttgcagaaaa tattcgctat   1680

ggcagagaag atgcaacaat ggaagacata gtccaagctg ccaaggaggc caatgcctac   1740

aacttcatca tggacctgcc acagcaattt gacacccttg ttggagaagg aggaggccag   1800

atgagtggtg gccagaaaca aagggtagct atcgccagag ccctcatccg aaatcccaag   1860

attctgcttt tggacatggc cacctcagct ctggacaatg agagtgaagc catggtgcaa   1920

gaagtgctga gtaagattca gcatgggcac acaatcattt cagttgctca tcgcttgtct   1980

acggtcagag ctgcagatac catcattggt tttgaacatg gcactgcagt ggaaagaggg   2040

acccatgaag aattactgga aaggaaaggt gtttacttca ctctagtgac tttgcaaagc   2100

cagggaaatc aagctcttaa tgaagaggac ataaaggatg caactgaaga tgacatgctt   2160

gcgaggacct ttagcagagg gagctaccag gatagtttaa gggcttccat ccggcaacgc   2220

tccaagtctc agctttctta cctggtgcac gaacctccat tagctgttgt agatcataag   2280

tctacctatg aagaagatag aaaggacaag gacattcctg tgcaggaaga agttgaacct   2340

gccccagtta ggaggattct gaaattcagt gctccagaat ggcccctacat gctggtaggg   2400

tctgtgggtg cagctgtgaa cgggacagtc acacccttgt atgccttttt attcagccag   2460

attcttggga ctttttcaat tcctgataaa gaggaacaaa ggtcacagat caatggtgtg   2520

tgcctacttt ttgtagcaat gggctgtgta tctcttttca cccaatttct acagggatat   2580

gcctttgcta aatctgggga gctcctaaca aaaaggctac gtaaatttgg tttcagggca   2640

atgctggggc aagatattgc ctggtttgat gacctcagaa atagccctgg agcattgaca   2700

acaagacttg ctacagatgc ttcccaagtt caaggggctg ccggctctca gatcgggatg   2760

atagtcaatt ccttcactaa cgtcactgtg gccatgatca ttgccttctc ctttagctgg   2820

aagctgagcc tggtcatctt gtgcttcttc cccttcttgg ctttatcagg agccacacag   2880

accaggatgt tgacaggatt tgcctctcga gataagcagg ccctggagat ggtgggacag   2940

attacaaatg aagccctcag taacatccgc actgttgctg gaattggaaa ggagaggcgg   3000

ttcattgaag cacttgagac tgagctggag aagcccttca agacagccat tcagaaagcc   3060

aatatttacg gattctgctt tgcctttgcc cagtgcatca tgtttattgc gaattctgct   3120

tcctacagat atggaggtta cttaatctcc aatgaggggc tccatttcag ctatgtgttc   3180

agggtgatct ctgcagttgt actgagtgca acagctcttg gaagagcctt ctcttacacc   3240

ccaagttatg caaaagctaa aatatcagct gcacgctttt ttcaactgct ggaccgacaa   3300

cccccaatca gtgtatacaa tactgcaggt gaaaaatggg acaacttcca ggggaagatt   3360

gattttgttg attgtaaatt tacatatcct tctcgacctg actcgcaagt tctgaatggt   3420

ctctcagtgt cgattagtcc agggcagaca ctggcgtttg ttgggagcag tggatgtggc   3480

aaaaagcacta gcattcagct gttggaacgt ttctatgatc ctgatcaagg gaaggtgatg   3540

atagatggtc atgacagcaa aaaagtaaat gtccagttcc tccgctcaaa cattggaatt   3600

gtttcccagg aaccagtgtt gtttgcctgt agcataatgg acaatatcaa gtatggagac   3660

aacaccaaag aaattcccat ggaaagagtc atagcagctg caaaacaggc tcagctgcat   3720

gattttgtca tgtcactccc agagaaatat gaaactaacg ttgggtccca ggggtctcaa   3780

ctctctagag gggagaaaca acgcattgct attgctcggg ccattgtacg agatcctaaa   3840

atcttgctac tagatgaagc cacttctgcc ttagacacag aaagtgaaaa gacggtgcag   3900

gttgctctag acaaagccag agagggtcgg acctgcattg tcattgccca tcgcttgtcc   3960

accatccaga cgcggatat cattgctgtc atggcacagg gggtggtgat tgaaaagggg   4020

acccatgaag aactgatggc ccaaaaagga gcctactaca aactagtcac cactggatcc   4080

cccatcagtt gacccaatgc aagaatctca gacacacatg acgcaccagt tacaggggtt   4140

gtttttaaag aaaaaaacaa tcccagcacg agggattgct gggattgttt tttctttaaa   4200

gaagaatntn nntattttac ttttacnnnc nttttcctac atcggaatcc aanctaattt   4260

ctaatggcct tccataataa ttctgcttta gatgtgtata cagaaaatga aagaaactag   4320

ggtccatgtg agggaaaacc caatgtcaag tggcagctca gccaccactc agtgcttctc   4380

tgtgcaggag ccagtcctga ttaatatgtg ggaattagtg agacatcagg gagtaagtga   4440

cactttgaac tcctcaagga cagagaactg tctttcattt ttgaaccctc ggtgtacaca   4500

gaggcgggtc tgtaacaggc aatcaacaaa cgtttcttga gctagaccaa ggtcagattt   4560

gaaaagaaca gaaggactga agaccagctg tgtttcttaa ctaaatttgt ctttcaagtg   4620

aaaccagctt ccttcatctc taaggctaag gatagggaaa gggtgggatg ctctcangct   4680

gagggaggca naaagggaaa gtattancat gagctttcca nttagggctg ttgatttatg   4740

ctttaacttc anantgagtg tagggtggtg anncta   4776

<210> 14

<211> 5838

<212> DNA

<213> Homo sapiens

<400> 14
ccgggcaggt ggctcatgct cgggagcgtg gttgagcggc tggcgcggtt gtcctggagc   60

aggggcgcag gaattctgat gtgaaactaa cagtctgtga gccctggaac ctccgctcag   120

agaagatgaa ggatatcgac ataggaaaag agtatatcat ccccagtcct gggtatagaa   180

gtgtgaggga gagaaccagc acttctggga cgcacagaga ccgtgaagat tccaagttca   240

ggagaactcg accgttggaa tgccaagatg ccttggaaac agcagcccga gccgagggcc   300

tctctcttga tgcctccatg cattctcagc tcagaatcct ggatgaggag catcccaagg   360

gaaagtacca tcatggcttg agtgctctga agcccatccg gactacttcc aaacaccagc   420

acccagtgga caatgctggg cttttttcct gtatgacttt ttcgtggctt tcttctctgg   480

cccgtgtggc ccacaagaag ggggagctct caatggaaga cgtgtggtct ctgtccaagc   540

acgagtcttc tgacgtgaac tgcagaagac tagagagact gtggcaagaa gagctgaatg   600

aagttgggcc agacgctgct tccctgcgaa gggttgtgtg gatcttctgc cgcaccaggc   660

tcatcctgtc catcgtgtgc ctgatgatca cgcagctggc tggcttcagt ggaccagcct   720

tcatggtgaa acacctcttg gagtataccc aggcaacaga gtctaacctg cagtacagct   780

tgttgttagt gctgggcctc ctcctgacgg aaatcgtgcg gtcttggtcg cttgcactga   840

cttgggcatt gaattaccga accggtgtcc gcttgcgggg ggccatccta accatggcat   900

ttaagaagat ccttaagtta aagaacatta aagagaaatc cctgggtgag ctcatcaaca   960

tttgctccaa cgatgggcag agaatgtttg aggcagcagc cgttggcagc ctgctggctg   1020

gaggacccgt tgttgccatc ttaggcatga tttataatgt aattattctg ggaccaacag   1080

gcttcctggg atcagctgtt tttatcctct tttacccagc aatgatgttt gcatcacggc   1140

tcacagcata tttcaggaga aaatgcgtgg ccgccacgga tgaacgtgtc cagaagatga   1200

atgaagttct tacttacatt aaatttatca aaatgtatgc ctgggtcaaa gcattttctc   1260

agagtgttca aaaaatccgc gaggaggagc gtcggatatt ggaaaaagcc gggtacttcc   1320

agggtatcac tgtgggtgtg gctcccattg tggtggtgat tgccagcgtg gtgaccttct   1380

ctgttcatat gaccctgggc ttcgatctga cagcagcaca ggctttcaca gtggtgacag   1440

tcttcaattc catgacttttt gctttgaaag taacaccgtt ttcagtaaag tccctctcag   1500

aagcctcagt ggctgttgac agatttaaga gtttgtttct aatggaagag gttcacatga   1560

taaagaacaa accagccagt cctcacatca agatagagat gaaaaatgcc accttggcat   1620

gggactcctc ccactccagt atccagaact cgcccaagct gacccccaaa atgaaaaaag   1680

acaagagggc ttccaggggc aagaaagaga aggtgaggca gctgcagcgc actgagcatc   1740

aggcggtgct ggcagagcag aaaggccacc tcctcctgga cagtgacgag cggcccagtc   1800

ccgaagagga agaaggcaag cacatccacc tgggccacct gcgcttacag aggacactgc   1860

acagcatcga tctggagatc caagagggta aactggttgg aatctgcggc agtgtgggaa   1920

gtggaaaaac ctctctcatt tcagccattt taggccagat gacgcttcta gagggcagca   1980

ttgcaatcag tggaaccttc gcttatgtgg cccagcaggc ctggatcctc aatgctactc   2040

tgagagacaa catcctgttt gggaaggaat atgatgaaga aagatacaac tctgtgctga   2100

acagctgctg cctgaggcct gacctggcca ttcttcccag cagcgacctg acggagattg   2160

gagagcgagg agccaacctg agcggtgggc agcgccagag gatcagcctt gcccgggcct   2220

tgtatagtga caggagcatc tacatcctgg acgaccccct cagtgcctta gatgcccatg   2280

tgggcaacca catcttcaat agtgctatcc ggaaacatct caagtccaag acagttctgt   2340

ttgttaccca ccagttacag tacctggttg actgtgatga agtgatcttc atgaaagagg   2400

gctgtattac ggaaagaggc acccatgagg aactgatgaa tttaaatggt gactatgcta 2460

ccatttttaa taacctgttg ctgggagaga caccgccagt tgagatcaat tcaaaaaagg 2520

aaaccagtgg ttcacagaag aagtcacaag acaagggtcc taaaacagga tcagtaaaga 2580

aggaaaaagc agtaaagcca gaggaagggc agcttgtgca gctggaagag aaagggcagg 2640

gttcagtgcc ctggtcagta tatggtgtct acatccaggc tgctgggggc cccttggcat 2700

tcctggttat tatggccctt ttcatgctga atgtaggcag caccgccttc agcacctggt 2760

ggttgagtta ctggatcaag caaggaagcg ggaacaccac tgtgactcga gggaacgaga 2820

cctcggtgag tgacagcatg aaggacaatc tcatatgca gtactatgcc agcatctacg 2880

ccctctccat ggcagtcatg ctgatcctga aagccattcg aggagttgtc tttgtcaagg 2940

gcacgctgcg agcttcctcc cggctgcatg acgagctttt ccgaaggatc cttcgaagcc 3000

ctatgaagtt ttttgacacg accccacag ggaggattct caacaggttt tccaaagaca 3060

tggatgaagt tgacgtgcgg ctgccgttcc aggccgagat gttcatccag aacgttatcc 3120

tggtgttctt ctgtgtggga atgatcgcag gagtcttccc gtggttcctt gtggcagtgg 3180

ggccccttgt catcctcttt tcagtcctgc acattgtctc cagggtcctg attcgggagc 3240

tgaagcgtct ggacaatatc acgcagtcac ctttcctctc ccacatcacg tccagcatac 3300

agggccttgc caccatccac gcctacaata aagggcagga gtttctgcac agataccagg 3360

agctgctgga tgacaaccaa gctcctttt ttttgtttac gtgtgcgatg cggtggctgg 3420

ctgtgcggct ggacctcatc agcatcgccc tcatcaccac cacggggctg atgatcgttc 3480

ttatgcacgg gcagattccc ccagcctatg cgggtctcgc catctcttat gctgtccagt 3540

taacgggct gttccagttt acggtcagac tggcatctga gacagaagct cgattcacct 3600

cggtggagag gatcaatcac tacattaaga ctctgtcctt ggaagcacct gccagaatta 3660

agaacaaggc tccctcccct gactggcccc aggaggggaga ggtgaccttt gagaacgcag 3720

agatgaggta ccgagaaaac ctccctcttg tcctaaagaa agtatccttc acgatcaaac 3780

ctaaagagaa gattggcatt gtggggcgga caggatcagg gaagtcctcg ctggggatgg 3840

ccctcttccg tctggtggag ttatctggag ctgcatcaa gattgatgga gtgagaatca 3900

gtgatattgg ccttgccgac ctccgaagca aactctctat cattcctcaa gagccggtgc 3960

tgttcagtgg cactgtcaga tcaaatttgg accccttcaa ccagtacact gaagaccaga 4020

tttgggatgc cctggagagg acacacatga aagaatgtat tgctcagcta cctctgaaac 4080

ttgaatctga agtgatggag aatgggggata acttctcagt gggggaacgg cagctcttgt   4140

gcatagctag agccctgctc cgccactgta agattctgat tttagatgaa gccacagctg   4200

ccatggacac agagacagac ttattgattc aagagaccat ccgagaagca tttgcagact   4260

gtaccatgct gaccattgcc catcgcctgc acacggttct aggctccgat aggattatgg   4320

tgctggccca gggacaggtg gtggagtttg acaccccatc ggtccttctg tccaacgaca   4380

gttcccgatt ctatgccatg tttgctgctg cagagaacaa ggtcgctgtc aagggctgac   4440

tcctccctgt tgacgaagtc tcttttcttt agagcattgc cattccctgc ctggggcggg   4500

cccctcatcg cgtcctccta ccgaaacctt gcctttctcg attttatctt tcgcacagca   4560

gttccggatt ggcttgtgtg tttcactttt agggagagtc atattttgat tattgtattt   4620

attccatatt catgtaaaca aaatttagtt tttgttctta attgcactct aaaaggttca   4680

gggaaccgtt attataattg tatcagaggc ctataatgaa gctttatacg tgtagctata   4740

tctatatata attctgtaca tagcctatat ttacagtgaa aatgtaagct gtttattta   4800

tattaaaata agcactgtgc taataacagt gcatattcct ttctatcatt tttgtacagt   4860

ttgctgtact agagatctgg ttttgctatt agactgtagg aagagtagca tttcattctt   4920

ctctagctgg tggtttcacg gtgccaggtt ttctgggtgt ccaaaggaag acgtgtggca   4980

atagtgggcc ctccgacagc cccctctgcc gcctccccac agccgctcca ggggtggctg   5040

gagacgggtg ggcggctgga gaccatgcag agcgccgtga gttctcaggg ctcctgcctt   5100

ctgtcctggt gtcacttact gtttctgtca ggagagcagc ggggcgaagc ccaggcccct   5160

tttcactccc tccatcaaga atgggggatca cagagacatt cctccgagcc ggggagtttc   5220

tttcctgcct tcttcttttt gctgttgttt ctaaacaaga atcagtctat ccacagagag   5280

tcccactgcc tcaggttcct atggctggcc actgcacaga gctctccagc tccaagacct   5340

gttggttcca agccctggag ccaactgctg cttttttgagg tggcactttt tcatttgcct   5400

attcccacac ctccacagtt cagtggcagg gctcaggatt tcgtgggtct gttttccttt   5460

ctcaccgcag tcgtcgcaca gtctctctct ctctctcccc tcaaagtctg caactttaag   5520

cagctcttgc taatcagtgt ctcacactgg cgtagaagtt tttgtactgt aaaagagacct   5580

acctcaggtt gctggttgct gtgtggtttg gtgtgttccc gcaaacccccc tttgtgctgt   5640

ggggctggta gctcaggtgg gcgtggtcac tgctgtcatc agttgaatgg tcagcgttgc   5700

atgtcgtgac caactagaca ttctgtcgcc ttagcatgtt tgctgaacac cttgtggaag   5760

caaaaatctg aaaatgtgaa taaaattatt ttggattttg taaaaaaaaa aaaaaaaaaa   5820

aaaaaaaaaa aaaaaaaa   5838

<210> 15

<211> 7323

<212> DNA

<213> Homo sapiens

<400> 15
gccagaggcg ctcttaacgg cgtttatgtc ctttgctgtc tgaggggcct cagctctgac   60

caatctggtc ttcgtgtggt cattagcatg ggcttcgtga gacagataca gcttttgctc   120

tggaagaact ggaccctgcg gaaaaggcaa aagattcgct ttgtggtgga actcgtgtgg   180

cctttatctt tatttctggt cttgatctgg ttaaggaatg ccaacccgct ctacagccat   240

catgaatgcc atttcccaa caaggcgatg ccctcagcag gaatgctgcc gtggctccag   300

gggatcttct gcaatgtgaa caatccctgt tttcaaagcc ccaccccagg agaatctcct   360

ggaattgtgt caaactataa caactccatc ttggcaaggg tatatcgaga ttttcaagaa   420

ctcctcatga atgcaccaga gagccagcac cttggccgta tttggacaga gctacacatc   480

ttgtcccaat tcatggacac cctccggact cacccggaga gaattgcagg aagaggaata   540

cgaataaggg atatcttgaa agatgaagaa acactgacac tatttctcat taaaaacatc   600

ggcctgtctg actcagtggt ctaccttctg atcaactctc aagtccgtcc agagcagttc   660

gctcatggag tcccggacct ggcgctgaag gacatcgcct gcagcgaggc cctcctggag   720

cgcttcatca tcttcagcca gagacgcggg gcaaagacgg tgcgctatgc cctgtgctcc   780

ctctcccagg gcaccctaca gtggatagaa gacactctgt atgccaacgt ggacttcttc   840

aagctcttcc gtgtgcttcc cacactccta gacagccgtt ctcaaggtat caatctgaga   900

tcttggggag gaatattatc tgatatgtca ccaagaattc aagagtttat ccatcggccg   960

agtatgcagg acttgctgtg ggtgaccagg cccctcatgc agaatggtgg tccagagacc   1020

tttacaaagc tgatgggcat cctgtctgac ctcctgtgtg gctaccccga gggaggtggc   1080

tctcgggtgc tctccttcaa ctggtatgaa gacaataact ataaggcctt tctggggatt   1140

gactccacaa ggaaggatcc tatctattct tatgacagaa gaacaacatc cttttgtaat   1200

gcattgatcc agagcctgga gtcaaatcct ttaaccaaaa tcgcttggag ggcggcaaag 1260

cctttgctga tgggaaaaat cctgtacact cctgattcac ctgcagcacg aaggatactg 1320

aagaatgcca actcaacttt tgaagaactg gaacacgtta ggaagttggt caaagcctgg 1380

gaagaagtag ggccccagat ctggtacttc tttgacaaca gcacacagat gaacatgatc 1440

agagataccc tggggaaccc aacagtaaaa gactttttga ataggcagct tggtgaagaa 1500

ggtattactg ctgaagccat cctaaacttc ctctacaagg gccctcggga aagccaggct 1560

gacgacatgg ccaacttcga ctggagggac atatttaaca tcactgatcg caccctccgc 1620

ctggtcaatc aatacctgga gtgcttggtc ctggataagt ttgaaagcta caatgatgaa 1680

actcagctca cccaacgtgc cctctctcta ctggaggaaa acatgttctg ggccggagtg 1740

gtattccctg acatgtatcc ctggaccagc tctctaccac cccacgtgaa gtataagatc 1800

cgaatggaca tagacgtggt ggagaaaacc aataagatta aagacaggta ttgggattct 1860

ggtcccagag ctgatcccgt ggaagatttc cggtacatct ggggcgggtt tgcctatctg 1920

caggacatgg ttgaacaggg gatcacaagg agccaggtgc aggcggaggc tccagttgga 1980

atctacctcc agcagatgcc ctacccctgc ttcgtggacg attctttcat gatcatcctg 2040

aaccgctgtt tccctatctt catggtgctg gcatggatct actctgtctc catgactgtg 2100

aagagcatcg tcttggagaa ggagttgcga ctgaaggaga ccttgaaaaa tcagggtgtc 2160

tccaatgcag tgatttggtg tacctggttc ctggacagct tctccatcat gtcgatgagc 2220

atcttcctcc tgacgatatt catcatgcat gtaagaatcc tacattacag cgacccattc 2280

atcctcttcc tgttcttgtt ggctttctcc actgccacca tcatgctgtg ctttctgctc 2340

agcaccttct tctccaaggc cagtctggca gcagcctgta gtggtgtcat ctatttcacc 2400

ctctacctgc cacacatcct gtgcttcgcc tggcaggacc gcatgaccgc tgagctgaag 2460

aaggctgtga gcttactgtc tccggtggca tttggatttg gcactgagta cctggttcgc 2520

tttgaagagc aaggcctggg gctgcagtgg agcaacatcg ggaacagtcc cacggaaggg 2580

gacgaattca gcttcctgct gtccatgcag atgatgctcc ttgatgctgc tgtctatggc 2640

ttactcgctt ggtaccttga tcaggtgttt ccaggagact atggaacccc acttccttgg 2700

tactttcttc tacaagagtc gtattggctt ggcggtgaag ggtgttcaac cagagaagaa -2760

agagccctgg aaaagaccga gcccctaaca gaggaaacgg aggatccaga gcacccagaa 2820

ggaatacacg actccttctt tgaacgtgag catccagggt gggttcctgg ggtatgcgtg 2880

aagaatctgg taaagatttt tgagccctcc ggccggccag ctgtggaccg tctgaacatc 2940

accttctacg agaaccagat caccgcattc ctgggccaca atggagctgg gaaaaccacc 3000

accttgtcca tcctgacggg tctgttgcca ccaacctctg ggactgtgct cgttggggga 3060

agggacattg aaaccagcct ggatgcagtc cggcagagcc ttggcatgtg tccacagcac 3120

aacatcctgt tccaccacct cacggtggct gagcacatgc tgttctatgc ccagctgaaa 3180

ggaaagtccc aggaggaggc ccagctggag atggaagcca tgttggagga cacaggcctc 3240

caccacaagc ggaatgaaga ggctcaggac ctatcaggtg gcatgcagag aaagctgtcg 3300

gttgccattg cctttgtggg agatgccaag gtggtgattc tggacgaacc cacctctggg 3360

gtggaccctt actcgagacg ctcaatctgg gatctgctcc tgaagtatcg ctcaggcaga 3420

accatcatca tgtccactca ccacatggac gaggccgacc tccttgggga ccgcattgcc 3480

atcattgccc agggaaggct ctactgctca ggcacccac tcttcctgaa gaactgcttt 3540

ggcacaggct tgtacttaac cttggtgcgc aagatgaaaa acatccagag ccaaaggaaa 3600

ggcagtgagg ggacctgcag ctgctcgtct aagggtttct ccaccacgtg tccagcccac 3660

gtcgatgacc taactccaga acaagtcctg gatggggatg taaatgagct gatggatgta 3720

gttctccacc atgttccaga ggcaaagctg gtggagtgca ttggtcaaga acttatcttc 3780

cttcttccaa ataagaactt caagcacaga gcatatgcca gccttttcag agagctggag 3840

gagacgctgg ctgaccttgg tctcagcagt tttggaattt ctgacactcc cctggaagag 3900

atttttctga aggtcacgga ggattctgat tcaggacctc tgtttgcggg tggcgctcag 3960

cagaaaagag aaaacgtcaa cccccgacac ccctgcttgg gtcccagaga gaaggctgga 4020

cagacacccc aggactccaa tgtctgctcc ccaggggcgc cggctgctca cccagagggc 4080

cagcctcccc cagagccaga gtgcccaggc ccgcagctca acacggggac acagctggtc 4140

ctccagcatg tgcaggcgct gctggtcaag agattccaac acaccatccg cagccacaag 4200

gacttcctgg cgcagatcgt gctcccggct acctttgtgt ttttggctct gatgctttct 4260

attgttatcc ctcctttggg cgaatacccc gctttgaccc ttcacccctg gatatatggg 4320

cagcagtaca ccttcttcag catggatgaa ccaggcagtg agcagttcac ggtacttgca 4380

gacgtcctcc tgaataagcc aggctttggc aaccgctgcc tgaaggaagg gtggcttccg 4440

gagtacccct gtggcaactc aacaccctgg aagactcctt ctgtgtcccc aaacatcacc 4500

cagctgttcc agaagcagaa atggacacag gtcaacccct taccatcctg caggtgcagc 4560

accagggaga agctcaccat gctgccagag tgccccgagg gtgccggggg cctcccgccc   4620

ccccagagaa cacagcgcag cacggaaatt ctacaagacc tgacggacag gaacatctcc   4680

gacttcttgg taaaaacgta tcctgctctt ataagaagca gcttaaagag caaattctgg   4740

gtcaatgaac agaggtatgg aggaatttcc attggaggaa agctcccagt cgtccccatc   4800

acgggggaag cacttgttgg gttttttaagc gaccttggcc ggatcatgaa tgtgagcggg   4860

ggccctatca ctagagaggc ctctaaagaa atacctgatt tccttaaaca tctagaaact   4920

gaagacaaca ttaaggtgtg gtttaataac aaaaggctggc atgccctggt cagctttctc   4980

aatgtggccc acaacgccat cttacgggcc agcctgccta aggacaggag ccccgaggag   5040

tatggaatca ccgtcattag ccaacccctg aacctgacca aggagcagct ctcagagatt   5100

acagtgctga ccacttcagt ggatgctgtg gttgccatct gtgtgatttt ctccatgtcc   5160

ttcgtcccag ccagctttgt cctttatttg atccaggagc gggtgaacaa atccaagcac   5220

ctccagttta tcagtggagt gagccccacc acctactggg tgaccaactt cctctgggac   5280

atcgtgaatt attccgtgag tgctgggctg gtggtgggca tcttcatcgg gtttcagaag   5340

aaagcctaca cttctccaga aaaccttcct gcccttgtgg cactgctcct gctgtatgga   5400

tgggcggtca ttcccatgat gtacccagca tccttcctgt ttgatgtccc cagcacagcc   5460

tatgtggctt tatcttgtgc taatctgttc atcggcatca acagcagtgc tattaccttc   5520

atcttggaat tatttgagaa taaccggacg ctgctcaggt tcaacgccgt gctgaggaag   5580

ctgctcattg tcttcccca cttctgcctg ggccgggggcc tcattgacct tgcactgagc   5640

caggctgtga cagatgtcta tgcccggttt ggtgaggagc actctgcaaa tccgttccac   5700

tgggacctga ttgggaagaa cctgtttgcc atggtggtgg aaggggtggt gtacttcctc   5760

ctgacccctgc tggtccagcg ccacttcttc ctctcccaat ggattgccga gcccactaag   5820

gagcccattg ttgatgaaga tgatgatgtg gctgaagaaa gacaaagaat tattactggt   5880

ggaaataaaa ctgacatctt aaggctacat gaactaacca agatttatcc gggcacctcc   5940

agcccagcag tggacaggct gtgtgtcgga gttcgccctg gagagtgctt tggcctcctg   6000

ggagtgaatg gtgccggcaa aacaaccaca ttcaagatgc tcactgggga caacacagtg   6060

acctcagggg atgccaccgt agcaggcaag agtattttaa ccaatatttc tgaagtccat   6120

caaaatatgg gctactgtcc tcagtttgat gcaatcgatg agctgctcac aggacgagaa   6180

catctttacc tttatgcccg gcttcgaggt gtaccagcag aagaaatcga aaaggttgca   6240

aactggagta ttaagagcct gggcctgact gtctacgccg actgcctggc tggcacgtac   6300

agtgggggca acaagcggaa actctccaca gccatcgcac tcattggctg cccaccgctg   6360

gtgctgctgg atgagcccac cacagggatg gacccccagg cacgccgcat gctgtggaac   6420

gtcatcgtga gcatcatcag agaagggagg gctgtggtcc tcacatccca cagcatggaa   6480

gaatgtgagg cactgtgtac ccggctggcc atcatggtaa agggcgcctt tcgatgtatg   6540

ggcaccattc agcatctcaa gtccaaattt ggagatggct atatcgtcac aatgaagatc   6600

aaatccccga aggacgacct gcttcctgac ctgaaccctg tggagcagtt cttccagggg   6660

aacttcccag gcagtgtgca gagggagagg cactacaaca tgctccagtt ccaggtctcc   6720

tcctcctccc tggcgaggat cttccagctc ctcctctccc acaaggacag cctgctcatc   6780

gaggagtact cagtcacaca gaccacactg gaccaggtgt ttgtaaattt tgctaaacag   6840

cagactgaaa gtcatgacct ccctctgcac cctcgagctg ctggagccag tcgacaagcc   6900

caggactgat ctttcacacc gttcgttcct gcagccagaa aggaactctg ggcagctgga   6960

ggcgcaggag cctgtgccca tatggtcatc caaatggact ggccagcgta aatgacccca   7020

ctgcagcaga aaacaaacac acgaggagca tgcagcgaat tcagaaagag gtctttcaga   7080

aggaaaccga aactgacttg ctcacctgga acacctgatg gtgaaaccaa acaaatacaa   7140

aatccttctc cagaccccag aactagaaac cccgggccat cccactagca gctttggcct   7200

ccatattgct ctcatttcaa gcagatctgc ttttctgcat gtttgtctgt gtgtctgcgt   7260

tgtgtgtgat tttcatggaa aaataaaatg caaatgcact catcacaaaa aaaaaaaaaa   7320

aaa   7323

<210> 16

<211> 2930

<212> DNA

<213> Homo sapiens

<400> 16
gaattccggt ttcttcctaa aaaatgtctg atggccgctt tctcggtcgg caccgccatg   60

aatgccagca gttactctgc agagatgacg gagcccaagt cggtgtgtgt ctcggtggat   120

gaggtggtgt ccagcaacat ggaggccact gagacggacc tgctgaatgg acatctgaaa   180

aaagtagata ataacctcac ggaagcccag cgcttctcct ccttgcctcg gagggcagct   240

gtgaacattg aattcaggga cctttcctat tcggttcctg aaggaccctg gtggaggaag   300

aaaggataca agaccctcct gaaaggaatt tccgggaagt tcaatagtgg tgagttggtg   360

gccattatgg gtccttccgg ggccgggaag tccacgctga tgaacatcct ggctggatac   420

agggagacgg gcatgaaggg ggccgtcctc atcaacggcc tgccccggga cctgcgctgc   480

ttccggaagg tgtcctgcta catcatgcag gatgacatgc tgctgccgca tctcactgtg   540

caggaggcca tgatggtgtc ggcacatctg aagcttcagg agaaggatga aggcagaagg   600

gaaatggtca aggagatact gacagcgctg ggcttgctgt cttgcgccaa cacgcggacc   660

gggagcctgt caggtggtca gcgcaagcgc ctggccatcg cgctggagct ggtgaacaac   720

cctccagtca tgttcttcga tgagcccacc agcggcctgg acagcgcctc ctgcttccag   780

gtggtctcgc tgatgaaagg gctcgctcaa gggggtcgct ccatcatttg caccatccac   840

cagcccagcg ccaaactctt cgagctgttc gaccagcttt acgtcctgag tcaaggacaa   900

tgtgtgtacc ggggaaaagt ctgcaatctt gtgccatatt tgagggattt gggtctgaac   960

tgcccaacct accacaaccc agcagatttt gtcatggagg ttgcatccgg cgagtacggt   1020

gatcagaaca gtcggctggt gagagcggtt cgggagggca tgtgtgactc agaccacaag   1080

agagacctcg ggggtgatgc cgaggtgaac cctttctttt ggcaccgccc ctctgaagag   1140

gtaaagcaga caaaacgatt aaaggggttg agaaaggact cctcgtccat ggaaggctgc   1200

cacagcttct ctgccagctg cctcacgcag ttctgcatcc tcttcaagag gaccttcctc   1260

agcatcatga gggactcggt cctgacacac ctgcgcatca cctcgcacat tgggatcggc   1320

ctcctcattg gcctgctgta cttggggatc gggaacgaaa ccaagaaggt cttgagcaac   1380

tccggcttcc tcttcttctc catgctgttc ctcatgttcg cggccctcat gcctactgtt   1440

ctgacatttc ccctggagat gggagtcttt cttcgggaac acctgaacta ctggtacagc   1500

ctgaaggcct actacctggc caagaccatg gcagacgtgc cctttcagat catgttccca   1560

gtggcctact gcagcatcgt gtactggatg acgtcgcagc cgtccgacgc cgtgcgcttt   1620

gtgctgtttg ccgcgctggg caccatgacc tccctggtgg cacagtccct gggcctgctg   1680

atcggagccg cctccacgtc cctgcaggtg gccactttcg tgggcccagt gacagccatc   1740

ccggtgctcc tgttctcggg gttcttcgtc agcttcgaca ccatccccac gtacctacag   1800

tggatgtcct acatctccta tgtcaggtat gggttcgaag gggtcatcct ctccatctat   1860

ggcttagacc gggaagatct gcactgtgac atcgacgaga cgtgccactt ccagaagtcg   1920

gaggccatcc tgcgggagct ggacgtggaa aatgccaagc tgtacctgga cttcatcgta   1980

ctcgggattt tcttcatctc cctccgcctc attgcctatt tggtcctcag gtacaaaatc   2040

cgggcagaga ggtaaaacac ctgaatgcca ggaaacagga agattagaca ctgtggccga   2100

gggcacgtct agaatcgagg aggcaagcct gtgcccgacc gacgacacag agactcttct   2160

gatccaaccc ctagaaccgc gttgggtttg tgggtgtctc gtgctcagcc actctgccca   2220

gctgggttgg atcttctctc cattcccctt tctagcttta actaggaaga tgtaggcaga   2280

ttggtggttt ttttttttt tttaacatac agaattttaa ataccacaac tggggcagaa   2340

tttaaagctg caacacagct ggtgatgaga ggcttcctca gtccagtcgc tccttagcac   2400

caggcaccgt gggtcctgga tggggaactg caagcagcct ctcagctgat ggctgcacag   2460

tcagatgtct ggtggcagag agtccgagca tggagcgatt ccattttatg actgttgttt   2520

ttcacatttt catctttcta aggtgtgtct cttttccaat gagaagtcat ttttgcaagc   2580

caaaagtcga tcaatcgcat tcattttaag aaattatacc tttttagtac ttgctgaaga   2640

atgattcagg gtaaatcaca tactttgttt agagaggcga ggggtttaac ccgagtcacc   2700

cagctggtct catacataga cagcacttgt gaaggattga atgcaggttc caggtggagg   2760

gaagacgtgg acaccatctc cactgagcca tgcagacatt tttaaaagct atacacaaaa   2820

ttgtgagaag acattggcca actctttcaa agtctttctt tttccacgtg cttcttattt   2880

taagcgaaat atattgtttg tttcttccta aaaaaaaaaa aaaaaaaaaa   2930

<210> 17

<211> 400

<212> DNA

<213> Homo sapiens

<400> 17
gagatcctga ggcttttccc ccaggctgct cagcaggaaa ggttctcctc cctgatggtc   60

tataagttgc ctgttgagga tgtgcgacct ttatcacagg ctttcttcaa attagagata   120

gttaaacaga gtttcgacct ggaggagtac agcctctcac agtctaccct ggagcaggtt   180

ttcctggagc tctccaagga gcaggagctg ggtgatcttg aagaggactt tgatccctcg   240

gtgaagtgga aactcctcct gcaggaagag ccttaaagct ccaaataccc tatatctttc   300

tttaatcctg tgactctttt aaagataata ttttatagcc ttaatatgcc ttatatcaga   360

ggtggtacaa aatgcatttg aaactcatgc aataattatc   400

<210> 18

<211> 235

<212> DNA

<213> Homo sapiens

<400> 18
ttttcagttg catgtaatac caagaaatcg aattgttttc cggttcttat gggaattgtt   60

agcaatgccc ttattggaat ttttaacttc acagagctta ttcaaatgga gagcacctta   120

ttttttcgtg atgacatagt gctggatctt ggttttatag atgggtccat atttttgttg   180

ttgatcacaa actgcatttc tccttatatt ggcataagca gcatcagtga ttatt   235

<210> 19

<211> 636

<212> DNA

<213> Homo sapiens

<400> 19
atggataagt ttatactagt gttggcacat ggcggcatgt atagatatac taggaggacc   60

tagttgtatt ccttgtatga aaaagcgtcc ctggtactac aataagtctt tcgtgaaagg   120

agtgtaatcc taacaacaac tcaggaaagt attttgaaaa gaatactgga taaggaaaaa   180

cctgcagcta ctcctgctat ttcaagacat tgcctacaag tggttggtgt ggtctctgtg   240

gctgtggccg tgattccttg gatcgcaata cccttggttc cccttggaat cattttcatt   300

tttcttcggc gatatttttt ggaaacgtca agagatgtga agcgcctgga atctacaagt   360

gagtatggaa actcgggttg gtatagacat gctagctagt ttccatttat gccataaatt   420

acagagaccc cctgaaattc ggcagactct gtcttccaga atttctctaa cattaggtaa   480

ttgaacgtat tggccattat gaatcattgt gtcccttaga gcatgtggaa ttgatagcct   540

gcaacgtgta actttgcatt tggaataagg aaggagtgaa ggccatatgg ggagtaatat   600

tctacaggaa tgtcagcact gtgaagacag ggactc   636

<210> 20

<211> 2911

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (5)..(5)

<223> Unknown

<220>

<221> misc_feature

<222> (2909)..(2909)

<223> Unknown

<400> 20
cgggngagca cgtctggttc tatgggcggc tgaagggtct gagtgccgct gtagtgggcc   60

ccgagcagga ccgtctgctg caggatgtgg ggctggtctc caagcagagt gtgcagactc   120

gccacctctc tggtgggatg caacggaagc tgtccgtggc cattgccttt gtgggcggct   180

cccaagttgt tatcctggac gagcctacgg ctggcgtgga tcctgcttcc cgccgcggta   240

tttgggagct gctgctcaaa taccgagaag gtcgcacgct gatcctctcc acccaccacc   300

tggatgaggc agagctgctg ggagaccgtg tggctgtggt ggcaggtggc cgcttgtgct   360

gctgtggctc cccactcttc ctgcgccgtc acctgggctc cggctactac ctgacgctgg   420

tgaaggcccg cctgccccctg accaccaatg agaaggctga cactgacatg gagggcagtg   480

tggacaccag gcaggaaaag aagaatggca gccagggcag cagagtcggc actcctcagc   540

tgctggccct ggtacagcac tgggtgcccg gggcacggct ggtggaggag ctgccacacg   600

agctggtgct ggtgctgccc tacacgggtg cccatgacgg cagcttcgcc acactcttcc   660

gagagctaga cacgcggctg gcggagctga ggctcactgg ctacgggatc tccgacacca   720

gcctcgagga gatcttcctg aaggtggtgg aggagtgtgc tgcggacaca gatatggagg   780

atggcagctg cgggcagcac ctatgcacag gcattgctgg cctagacgta accctgcggc   840

tcaagatgcc gccacaggag acagcgctgg agaacgggga accagctggg tcagccccag   900

agactgacca gggctctggg ccagacgccg tgggccgggt acagggctgg cactgaccc   960

gccagcagct ccaggccctg cttctcaagc gctttctgct tgcccgccgc agccgccgcg   1020

gcctgttcgc ccagatcgtg ctgcctgccc tctttgtggg cctggccctc gtgttcagcc   1080

tcatcgtgcc tcctttcggg cactacccgg ctctgcggct cagtcccacc atgtacggtg   1140

ctcaggtgtc cttcttcagt gaggacgccc caggggaccc tggacgtgcc cggctgctcg   1200

aggcgctgct gcaggaggca ggactggagg agcccccagt gcagcatagc tcccacaggt   1260

tctcggcacc agaagttcct gctgaagtgg ccaaggtctt ggccagtggc aactggaccc   1320

cagagtctcc atccccagcc tgccagtgta gccagcccgg tgcccggcgc ctgctgcccg   1380

actgcccggc tgcagctggt ggtccccctc cgccccaggc agtgaccggc tctggggaag   1440

tggttcagaa cctgacaggc cggaacctgt ctgacttcct ggtcaagacc tacccgcgcc   1500

tggtgcgcca gggcctgaag actaagaagt gggtgaatga ggtcaggtac ggaggcttct   1560

cgctgggggg ccgagaccca ggcctgccct cgggccaaga gttgggccgc tcagtggagg   1620

agttgtgggc gctgctgagt cccctgcctg gcggggccct cgaccgtgtc ctgaaaaacc   1680

tcacagcctg ggctcacagc ctggacgctc aggacagtct caagatctgg ttcaacaaca   1740

aaggctggca ctccatggtg gcctttgtca accgagccag caacgcaatc ctccgtgctc   1800

acctgccccc aggccgggcc cgccacgccc acagcatcac cacactcaac caccccttga   1860

acctcaccaa ggagcagctg tttgaggctg cattgatggc ctcctcggtg gacgtcctcg   1920

tctccatctg tgtggtcttt gccatgtcct ttgtcccggc cagcttcact cttgtcctca   1980

ttgaggagcg agtcacccga gccaagcacc tgcagctcat gggggggcctg tcccccaccc   2040

tctactggct tggcaacttt ctctgggaca tgtgtaacta cttggtgcca gcatgcatcg   2100

tggtgctcat ctttctggcc ttccagcaga gggcatatgt ggcccctgcc aacctgcctg   2160

ctctcctgct gttgctacta ctgtatggct ggtcgatcac accgctcatg tacccagcct   2220

ccttcttctt ctccgtgccc agcacagcct atgtggtgct cacctgcata aacctcttta   2280

ttggcatcaa tggaagcatg gccacctttg tgcttgagct cttctctgat cagaagctgc   2340

aggaggtgag ccggatcttg aaacaggtct tccttatctt cccccacttc tgcttgggcc   2400

gggggcttat tgacatggtg cggaaccagg ccatggctga tgcctttgag cgcttgggag   2460

acaggcagtt ccagtcaccc ctgcgctggg aggtggtcgg caagaacctc ttggccatgg   2520

tgatacaggg gcccctcttc cttctcttca cactactgct gcagcaccga agccaactcc   2580

tgccacagcc cagggtgagg tctctgccac tcctgggaga ggaggacgag gatgtagccc   2640

gtgaacggga gcgggtggtc caaggagcca cccaggggga tgtgttggtg ctgaggaact   2700

tgaccaaggt ataccgtggg cagaggatgc cagctgttga ccgcttgtgc ctggggattc   2760

cccctggtga agtgtttggg gctgctgggt gtgaacggag cagggaagac gtccacgttt   2820

cgcatggtga cgggggacac attggccagc aggggcgagg ctgtgctggc aggccacagc   2880

gggcccggga acccagtgtg cgcacctcna g   2911

<210> 21

<211> 100

<212> DNA

<213> Homo sapiens

<400> 21
ctcctgccac agttagtgag gtctatggag agggtggcag gggccaagga cctactttaa   60

gcccacagat attctgtccc caggcccagg gtgaggtctc   100

<210> 22

<211> 15

<212> DNA

<213> Homo sapiens

<400> 22
tgccgaccga gaaag   15

<210> 23

<211> 372

<212> DNA

<213> Homo sapiens

<400> 23
atcgccgata tctccccttc gggctgcggc aagagcacct tcctgaaagt gctcgccggg   60

ttctatgccc tggacaccgg gcgcttcagg atcaacggcc aggcgatgcg gcatttcggt   120

ttgcgctcgt accgccagag cgtggcctat gtcacggccc acgacgagat catcgccggg   180

acggtgatcg agaacatcct gatggacagc gacccgctgg acggcacggg tttgcagagc   240

tgtgtcgagc aggccgggtt gctggaaagc atcctgaaac tgagcaatgg cttcaatacc   300

ttgctcggac ccatgggcgt gcaattgtcc tcgggccaga agcaacgcct gttgatcgcc   360

cggggtcgac gc   372

<210> 24

<211> 281

<212> DNA

<213> Homo sapiens

<400> 24
aaaaccaaag attctcctgg agttttctct aaactgggtg ttctcctgag gagagttgac   60

aagaaacttg gtgagaaata agctggcagt gattacgcgt ctccttcaga atctgatcat   120

gggtttgttc ctccttttct tcgttctgcg ggtccgaagc aatgtgctaa agggtgctat   180

ccaggaccgc gtaggtctcc tttaccagtt tgtgggcgcc accccgtaca caggcatgct   240

gaacgctgtg aatctgtttc ccgtgctgcg agctgtcagc a   281

<210> 25

<211> 2258

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1963)..(1963)

<223> Unknown

<400> 25
atggccgtga cgctggagga cggggcggaa ccccctgtgc tgaccacgca cctgaagaag   60

gtggagaacc acatcactga agcccagcgc ttctcccacc tgcccaagcg ctcagccgtg   120

gacatcgagt tcgtggagct gtcctattcc gtgcgggagg ggccctgctg gcgcaaaagg   180

ggttataaga cccttctcaa gtgcctctca ggtaaattct gccgccggga gctgattggc   240

atcatgggcc cctcaggggc tggcaagtct acattcatga acatcttggc aggatacagg   300

gagtctggaa tgaaggggca gatcctggtt aatggaaggc cacgggagct gaggaccttc   360

cgcaagatgt cctgctacat catgcaagat gacatgctgc tgccgcacct cacggtgttg   420

gaagccatga tggtctctgc taacctgaat cttactgaga atcccgatgt gaaaaacgat   480

ctcgtgacag agatcctgac ggcactgggc ctgatgtcgt gctcccacac gaggacagcc   540

ctgctctctg gcgggcagag gaagcgtctg gccatcgccc tggagctggt caacaacccg   600

cctgtcatgt tctttgatga gcccaccagt ggtctggata gcgcctcttg tttccaagtg   660

gtgtccctca tgaagtccct ggcacagggg ggccgtacca tcatctgcac catccaccag   720

cccagtgcca agctctttga gatgtttgac aagctctaca tcctgagcca gggtcagtgc   780

atcttcaaag gcgtggtcac caacctgatc ccctatctaa agggactcgg cttgcattgc   840

cccacctacc acaacccggc tgacttcagt gagtgggggt ctgttgcctc tggcgagtat   900

ggacacctga accccatgtt gttcagggct gtgcagaatg ggctgtgcgc tatggctgag   960

aagaagagca gccctgagaa gaacgaggtc cctgccccat gccctccttg tcctccggaa 1020

gtggatccca ttgaaagcca cacctttgcc accagcaccc tcacacagtt ctgcatcctc 1080

ttcaagagga ccttcctgtc catcctcagg gacacggtcc tgacccacct acggttcatg 1140

tcccacgtgg ttattggcgt gctcatcggc ctcctctacc tgcatattgg cgacgatgcc 1200

agcaaggtct tcaacaacac cggctgcctc ttcttctcca tgctgttcct catgttcgcc 1260

gccctcatgc caactgtgct caccttcccc ttagagatgg cggtcttcat gagggagcac 1320

ctcaactact ggtacagcct caaagcgtat tacctggcca agaccatggc tgacgtgccc   1380

tttcaggtgg tgtgtccggt ggtctactgc agcattgtgt actggatgaa cggccagccc   1440

gctgagacca gccgcttcct gctcttctca gccctggcca ccgccaccgc cttggtggcc   1500

caatctttgg ggctgctgat cggagctgct tccaactccc tacaggtggc cactttgtg   1560

ggcccagtta ccgccatccc tgtcctcttg ttctccggct tctttgtcag cttcaagacc   1620

atccccactt acctgcaatg gagctcctat ctctcctatg tcaggtatgg ctttgagggt   1680

gtgatcctga cgatctatgg catggagcga ggagacctga catgtttaga ggaacgctgc   1740

ccgttccggg agccacagag catcctccga gcgctggatg tggaggatgc caagctctac   1800

atggacttcc tggtcttggg catcttcttc ctagccctgc ggctgctggc ctaccttgtg   1860

ctgcgttacc gggtcaagtc agagagatag aggcttgccc cagcctgtac cccagcccct   1920

gcagcaggaa gcccccagtc ccagcccttt gggactgttt tanctctata cacttgggca   1980

ctggttcctg gcggggctat cctctcctcc cttggctcct ccacaggctg gctgtcggac   2040

tgcgctccca gcctgggctc tgggagtggg ggctccaacc ctccccacta tgcccaggag   2100

tcttcccaag ttgatgcggt ttgtagcttc ctccctactc tctccaacac ctgcatgcaa   2160

agactactgg gaggctgctg cctccttcct gcccatggca ccctcctctg ctgtctgcct   2220

gggagcccta ggctctctat ggccccactt acaactga   2258

<210> 26

<211> 820

<212> DNA

<213> Homo sapiens

<400> 26
tttaaggatt tcagcctttc cattccgtca ggatctgtca cggcactggt tggcccaagt   60

ggttctggca aatcaacagt gctttcactc ctgctgaggt tgtacgaccc tgcttctgga   120

actattagtc ttgatggcca tgacaatccg tcagctaaac ccagtgtgtg gctgagatcc   180

aaaattggga cagtcagtca ggaacccatt ttgtttctt gctctattgc tgagaacatt   240

gcttatggtg ctgatgaccc ttcctctgtg accgctgagg aaatccagag agtggctgaa   300

gtggccaatg cagtggcttc tccggaattt cccccaaggt tcaacactgt ggttggagaa   360

aagggtgttc tcctctcagg tgggcagaaa cagcggattg cgattgcccg tgctctgcta   420

aagaatccca aaattcttct cctagatgaa gcaaccagtg cgctggatgc cgaaaatgag   480

taccttgttc aagaagctct agatcgcctg atggatggaa gaacggtgtt agttattgcc   540

catagcctgt ccaccattaa gaatgctaat atggttgctg ttcttgacca aggaaaaatt   600

actgaatatg gaaaacatga agagctgctt tcaaaaccaa atgggatata cagaaaacta   660

atgaacaaac aaagtttat ttcagcataa ggaagcaatt actggtaaac aatatgagac   720

tttaatgcaa aacagtgttg cgaaaaaaaa ctcagagact atgaaataca taaaccatat   780

atcaagttat ttgaaaaata cctatttttt ccaaagtgtg   820

<210> 27

<211> 575

<212> DNA

<213> Homo sapiens

<400> 27
gctctccaca cagagatttt gaagcttttc ccacaggctg cttggcagga aagatattcc   60

tctttaatgg cgtataagtt acctgtggag gatgtccacc ctctatctcg ggcctttttc   120

aagttagagg cgatgaaaca gaccttcaac ctggaggaat acagcctctc tcaggctacc   180

ttggagcagg tattcttaga actctgtaaa gagcaggagc tgggaaatgt tgatgataaa   240

attgatacaa cagttgaatg gaaacttctc ccacaggaag acccttaaaa tgaagaacct   300

cctaacattc aattttaggt cctactacat tgttagtttc cataattcta caagaatgtt   360

tcctttact tcagttaaca aaagaaaaca tttaataaac attcaataat gattacagtt   420

ttcatttta aaaatttagg atgaaggaaa caaggaaata tagggaaaag tagtagacaa   480

aattaacaaa atcagacatg ttattcatcc ccaacatggg tctattttgt gcttaaaaat   540

aatttaaaaa tcatacaata ttaggttggt tatcg   575

<210> 28

<211> 300

<212> DNA

gtggaagatg tgcaaccttt agcccaagct ttcttcaaat tagagaaggt taaacagagc   60

tttgacctag aggagtacag cctctcacag tctaccctgg agcaggtttt cctggagctc   120

tccaaggagc aggagctggg tgattttgag gaggattttg atccctcagt gaagtggaag   180

ctcctccccc aggaagagcc ttaaaacccc aaattctgtg ttcctgttta aacccgtggt   240

tttttttaaa tacatttatt tttatagcag caatgttcta tttttagaaa ctatattata   300

tttaggaacg caccgtgcac atgcttggtg gtcttgttaa gtggaaactg ctgctttaga   60

gtttgtttgg aaggtccggg tgactcatcc caacatttac atccttaatt gttaaagcgc   120

tgcctccgag cgcacgcatc ctgagatcct gagcctttgg ttaagaccga gctctattaa   180

gctgaaaaga taaaaactct ccagatgtct tccagtaatg tcgaagtttt tatcccagtg   240

tcacaaggaa acaccaatgg cttccccgcg acagtttcca atgacctgaa ggcatttact   300

gaaggagctg tgttaagttt tcataacatc tgctatcgag taaaactgaa gagtggcttt   360

ctaccttgtc gaaaaccagt tgagaaagaa atattatcga atatcaatgg gatcatgaaa   420

cctggtctca acgccatcct gggacccaca ggtggaggca aatcttcgtt attagatgtc   480

ttagctgcaa ggaaagatcc aagtggatta tctggagatg ttctgataaa tggagcaccg   540

cgacctgcca atttcaaatg taattcaggt tacgtggtac aagatgatgt tgtgatgggc   600

actctgacgg tgagagaaaa cttacagttc tcagcagctc ttcggcttgc aacaactatg   660

acgaatcatg aaaaaaacga acggattaac agggtcattg aagagttagg tctggataaa   720

gtggcagact ccaaggttgg aactcagttt atccgtggtg tgtctggagg agaaagaaaa   780

aggactagta taggaatgga gcttatcact gatccttcca tcttgtcctt ggatgagcct   840

acaactggct tagactcaag cacagcaaat gctgtccttt tgctcctgaa aaggatgtct   900

aagcagggac gaacaatcat cttctccatt catcagcctc gatattccat cttcaagttg   960

tttgatagcc tcaccttatt ggcctcagga agacttatgt tccacgggcc tgctcaggag   1020

gccttgggat actttgaatc agctggttat cactgtgagg cctataataa ccctgcagac   1080

ttcttcttgg acatcattaa tggagattcc actgctgtgg cattaaacag agaagaagac   1140

tttaaagcca cagagatcat agagccttcc aagcaggata agccactcat agaaaaatta   1200

gcggagattt atgtcaactc ctccttctac aaagagacaa aagctgaatt acatcaactt   1260

tccgggggtg agaagaagaa gaagatcaca gtcttcaagg agatcagcta caccacctcc   1320

ttctgtcatc aactcagatg ggtttccaag cgttcattca aaaacttgct gggtaatccc   1380

caggcctcta tagctcagat cattgtcaca gtcgtactgg gactggttat aggtgccatt   1440

tactttgggc taaaaaatga ttctactgga atccagaaca gagctggggt tctcttcttc   1500

ctgacgacca accagtgttt cagcagtgtt tcagccgtgg aactctttgt ggtagagaag   1560

aagctcttca tacatgaata catcagcgga tactacagag tgtcatctta tttccttgga   1620

aaactgttat ctgatttatt acccatgagg atgttaccaa gtattatatt tacctgtata   1680

gtgtacttca tgttaggatt gaagccaaag gcagatgcct tcttcgttat gatgtttacc   1740

cttatgatgg tggcttattc agccagttcc atggcactgg ccatagcagc aggtcagagt   1800

gtggtttctg tagcaacact tctcatgacc atctgtttg tgtttatgat gatttttca   1860

ggtctgttgg tcaatctcac aaccattgca tcttggctgt catggcttca gtacttcagc   1920

attccacgat atggatttac ggctttgcag cataatgaat ttttgggaca aaacttctgc   1980

ccaggactca atgcaacagg aaacaatcct tgtaactatg caacatgtac tggcgaagaa   2040

tatttggtaa agcagggcat cgatctctca ccctggggct tgtggaagaa tcacgtggcc   2100

ttggcttgta tgattgttat tttcctcaca attgcctacc tgaaattgtt atttcttaaa   2160

aaatattctt aaatttcccc ttaattcagt atgatttatc ctcacataaa aaagaagcac   2220

tttgattgaa gtattcaatc aagttttttt gttgtttct gttcccttgc catcacactg   2280

ttgcacagca gcaattgttt taaagagata catttttaga aatcacaaca aactgaatta   2340

aacatgaaag aacccaagac atcatgtatc gcatattagt taatctcctc agacagtaac   2400

catggggaag aaatctggtc taatttatta atctaaaaaa ggagaattga attctggaaa   2460

ctcctgacaa gttattactg tctctggcat ttgtttcctc atctttaaaa tgaataggta   2520

ggttagtagc ccttcagtct taatacttta tgatgctatg gtttgccatt atttaatata   2580

tgacaaatgt attaatgcta tactggaaat gtaaaattga aaatatgttg gaaaaaagat   2640

tctgtcttat agggtaaaaa aagccaccgg tgatagaaaa aaaatctttt tgataagcac   2700

attaaagtta atagaactt   2719

<210> 30

<211> 6491

<212> DNA

<213> Homo sapiens

<400> 30
ccgccccggc gcccaggctc ggtgctggag agtcatgcct gtgagccctg ggcacctcct   60

gatgtcctgc gaggtcacgg tgttcccaaa cctcagggtt gccctgcccc actccagagg   120

ctctcaggcc ccaccccgga gccctctgtg cggagccgcc tcctcctggc cagttcccca   180

gtagtcctga agggagacct gctgtgtgga gcctcttctg ggacccagcc atgagtgtgg   240

agctgagcaa ctgaacctga aactcttcca ctgtgagtca aggaggcttt tccgcacatg   300

aaggacgctg agcgggaagg actcctctct gcctgcagtt gtagcgagtg gaccagcacc   360

aggggctctc tagactgccc ctcctccatc gccttccctg cctctccagg acagagcagc   420

cacgtctgca cacctcgccc tctttacact cagttttcag agcacgtttc tcctatttcc   480

tgcgggttgc agcgcctact tgaacttact cagaccacct acttctctag cagcactggg   540

cgtccctttc agcaagacga tggctgtgct caggcagctg gcgctcctcc tctggaagaa   600

ctacaccctg cagaagcgga aggtcctggt gacggtcctg gaactcttcc tgccattgct   660

gtttcctggg atcctcatct ggctccgctt gaagattcag tcggaaaatg tgcccaacgc   720

caccatctac ccgggccagt ccatccagga gctgcctctg ttcttcacct tccctccgcc   780

aggagacacc tgggagcttg cctacatccc ttctcacagt gacgctgcca agaccgtcac   840

tgagacagtg cgcagggcac ttgtgatcaa catgcgagtg cgcggctttc cctccgagaa   900

ggactttgag gactacatta ggtacgacaa ctgctcgtcc agcgtgctgg ccgccgtggt   960

cttcgagcac cccttcaacc acagcaagga gcccctgccg ctggcggtga aatatcacct   1020

acggttcagt tacacacgga gaaattacat gtggacccaa acaggctcct ttttcctgaa   1080

agagacagaa ggctggcaca ctacttccct tttcccgctt ttcccaaacc caggaccaag   1140

ggaactaaca tcccctgatg gcggagaacc tgggtacatc cgggaaggct tcctggccgt   1200

gcagcatgct gtggaccggg ccatcatgga gtaccatgcc gatgccgcca cacgccagct   1260

gttccagaga ctgacggtga ccatcaagag gttcccgtac ccgccgttca tcgcagaccc   1320

cttcctcgtg gccatccagt accagctgcc cctgctgctg ctgctcagct tcacctacac   1380

cgcgctcacc attgcccgtg ctgtcgtgca ggagaaggaa aggaggctga aggagtacat   1440

gcgcatgatg gggctcagca gctggctgca ctggagtgcc tggttcctct tgttcttcct   1500

cttcctcctc atcgccgcct ccttcatgac cctgctcttc tgtgtcaagg tgaagccaaa   1560

tgtagccgtg ctgtcccgca gcgacccctc cctggtgctc gccttcctgc tgtgcttcgc   1620

catctctacc atctccttca gcttcatggt cagcaccttc ttcagcaaag ccaacatggc   1680

agcagccttc ggaggcttcc tctacttctt cacctacatc ccctacttct tcgtggcccc   1740

tcggtacaac tggatgactc tgagccagaa gctctgctcc tgcctcctgt ctaatgtcgc   1800

catggcaatg ggagcccagc tcattgggaa atttgaggcg aaaggcatgg gcatccagtg   1860

gcgagacctc ctgagtcccg tcaacgtgga cgacgacttc tgcttcgggc aggtgctggg   1920

gatgctgctg ctggactctg tgctctatgg cctggtgacc tggtacatgg aggccgtctt   1980

cccagggcag ttcggcgtgc ctcagccctg gtacttcttc atcatgccct cctattggtg   2040

tgggaagcca agggcggttg cagggaagga ggaagaagac agtgaccccg agaaagcact   2100

cagaaacgag tactttgaag ccgagccaga ggacctggtg gcggggatca agatcaagca   2160

cctgtccaag gtgttcaggg tgggaaataa ggacagggcg gccgtcagag acctgaacct   2220

caacctgtac gagggacaga tcaccgtcct gctgggccac aacggtgccg ggaagaccac   2280

caccctctcc atgctcacag gtctctttcc ccccaccagt ggacgggcat acatcagcgg   2340

gtatgaaatt tcccaggaca tggttcagat ccggaagagc ctgggcctgt gcccgcagca   2400

cgacatcctg tttgacaact tgacagtcgc agagcacctt tatttctacg cccagctgaa   2460

gggcctgtca cgtcagaagt gccctgaaga agtcaagcag atgctgcaca tcatcggcct   2520

ggaggacaag tggaactcac ggagccgctt cctgagcggg ggcatgaggc gcaagctctc   2580

catcggcatc gccctcatcg caggctccaa ggtgctgata ctggacgagc ccacctcggg   2640

catggacgcc atctccagga gggccatctg ggatcttctt cagcggcaga aaagtgaccg   2700

caccatcgtg ctgaccaccc acttcatgga cgaggctgac ctgctgggag accgcatcgc   2760

catcatggcc aaggggagc tgcagtgctg cgggtcctcg ctgttcctca agcagaaata   2820

cggtgccggc tatcacatga cgctggtgaa ggagccgcac tgcaacccgg aagacatctc   2880

ccagctggtc caccaccacg tgcccaacgc cacgctggag agcagcgctg gggccgagct   2940

gtctttcatc cttcccagag agagcacgca caggtttgaa ggtctctttg ctaaactgga   3000

gaagaagcag aaagagctgg gcattgccag ctttggggca tccatcacca ccatggagga   3060

agtcttcctt cgggtcggga agctggtgga cagcagtatg gacatccagg ccatccagct   3120

ccctgccctg cagtaccagc acgagaggcg cgccagcgac tgggctgtgg acagcaacct   3180

ctgtgggggcc atggacccct ccgacggcat tggagccctc atcgaggagg agcgcaccgc   3240

tgtcaagctc aacactgggc tcgccctgca ctgccagcaa ttctgggcca tgttcctgaa   3300

gaaggccgca tacagctggc gcgagtggaa aatggtggcg gcacaggtcc tggtgcctct   3360

gacctgcgtc accctggccc tcctggccat caactactcc tcggagctct cgacgaccc   3420

catgctgagg ctgaccttgg gcgagtacgg cagaaccgtc gtgcccttct cagttcccgg   3480

gacctcccag ctgggtcagc agctgtcaga gcatctgaaa gacgcactgc aggctgaggg   3540

acaggagccc cgcgaggtgc tcggtgacct ggaggagttc ttgatcttca gggcttctgt   3600

ggaggggggc ggctttaatg agcggtgcct tgtggcagcg tccttcagag atgtgggaga   3660

gcgcacggtc gtcaacgcct tgttcaacaa ccaggcgtac cactctccag ccactgccct   3720

ggccgtcgtg gacaaccttc tgttcaagct gctgtgcggg cctcacgcct ccattgtggt   3780

ctccaacttc ccccagcccc ggagcgccct gcaggctgcc aaggaccagt ttaacgaggg   3840

ccggaaggga ttcgacattg ccctcaacct gctcttcgcc atggcattct tggccagcac   3900

gttctccatc ctggcggtca gcgagagggc cgtgcaggcc aagcatgtgc agtttgtgag   3960

tggagtccac gtggccagtt tctggctctc tgctctgctg tgggacctca tctccttcct   4020

catccccagt ctgctgctgc tggtggtgtt taaggccttc gacgtgcgtg ccttcacgcg   4080

ggacggccac atggctgaca ccctgctgct gctcctgctc tacggctggg ccatcatccc   4140

cctcatgtac ctgatgaact tcttcttctt gggggcggcc actgcctaca cgaggctgac   4200

catcttcaac atcctgtcag gcatcgccac cttcctgatg gtcaccatca tgcgcatccc   4260

agctgtaaaa ctggaagaac tttccaaaac cctggatcac gtgttcctgg tgctgcccaa   4320

ccactgtctg gggatggcag tcagcagttt ctacgagaac tacgagacgc ggaggtactg   4380

cacctcctcc gaggtcgccg cccactactg caagaaatat aacatccagt accaggagaa   4440

cttctatgcc tggagcgccc cggggggtcgg ccggtttgtg gcctccatgg ccgcctcagg   4500

gtgcgcctac ctcatcctgc tcttcctcat cgagaccaac ctgcttcaga gactcagggg   4560

catcctctgc gccctccgga ggaggcggac actgacagaa ttatacaccc ggatgcctgt   4620

gcttcctgag gaccaagatg tagcggacga gaggacccgc atcctggccc ccagcccgga   4680

ctccctgctc cacacacctc tgattatcaa ggagctctcc aaggtgtacg agcagcgggt   4740

gcccctcctg gccgtggaca ggctctccct cgcggtgcag aaaggggagt gcttcggcct   4800

gctgggcttc aatggagccg ggaagaccac gactttcaaa atgctgaccg gggaggagag   4860

cctcacttct ggggatgcct ttgtcggggg tcacagaatc agctctgatg tcggaaaggt   4920

gcggcagcgg atcggctact gcccgcagtt tgatgccttg ctggaccaca tgacaggccg   4980

ggagatgctg gtcatgtacg ctcggctccg gggcatccct gagcgccaca tcggggcctg   5040

cgtggagaac actctgcggg gcctgctgct ggagccacat gccaacaagc tggtcaggac   5100

gtacagtggt ggtaacaagc ggaagctgag caccggcatc gccctgatcg gagagcctgc   5160

tgtcatcttc ctggacgagc cgtccactgg catggacccc gtggcccggc gcctgctttg   5220

ggacaccgtg gcacgagccc gagagtctgg caaggccatc atcatcacct cccacagcat   5280

ggaggagtgt gaggccctgt gcacccggct ggccatcatg gtgcagggggc agttcaagtg   5340

cctgggcagc ccccagcacc tcaagagcaa gttcggcagc ggctactccc tgcgggccaa   5400

ggtgcagagt gaagggcaac aggaggcgct ggaggagttc aaggccttcg tggacctgac   5460

ctttccaggc agcgtcctgg aagatgagca ccaaggcatg gtccattacc acctgccggg   5520

ccgtgacctc agctgggcga aggttttcgg tattctggag aaagccaagg aaaagtacgg   5580

cgtggacgac tactccgtga gccagatctc gctggaacag gtcttcctga gcttcgccca   5640

cctgcagccg cccaccgcag aggaggggcg atgaggggtg gcggctgtct cgccatcagg   5700

cagggacagg acgggcaagc agggcccatc ttacatcctc tctctccaag tttatctcat   5760

cctttatttt taatcacttt tttctatgat ggatatgaaa aattcaaggc agtatgcaca   5820

gaatggacga gtgcagccca gccctcatgc ccaggatcag catgcgcatc tccatgtctg   5880

catactctgg agttcacttt cccagagctg gggcaggccg ggcagtctgc gggcaagctc   5940

cggggtctct gggtggagag ctgacccagg aagggctgca gctgagctgg gggttgaatt   6000

tctccaggca ctccctggag agaggaccca gtgacttgtc caagtttaca cacgacacta   6060

atctcccctg gggaggaagc gggaagccag ccaggttgaa ctgtagcgag gcccccaggc   6120

cgccaggaat ggaccatgca gatcactgtc agtggaggga agctgctgac tgtgattagg   6180

tgctggggtc ttagcgtcca gcgcagcccg ggggcatcct ggaggctctg ctcccttagg   6240

gcatggtagt caccgcgaag ccgggcaccg tcccacagca tctcctagaa gcagccggca   6300

caggagggaa ggtggccagg ctcgaagcag tctctgtttc cagcactgca ccctcaggaa   6360

gtcgcccgcc ccaggacacg cagggaccac cctaagggct gggtggctgt ctcaaggaca   6420

cattgaatac gttgtgacca tccagaaaat aaatgctgag gggacacaaa aaaaaaaaaa   6480

aaaaaaaaaa a   6491

<210> 31

<211> 2923

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (856)..(856)

<223> Unknown

<220>

<221> misc_feature

<222> (1009)..(1009)

<223> Unknown

<220>

<221> misc_feature

<222> (1128)..(1128)

<223> Unknown

<220>

<221> misc_feature

<222> (1314)..(1314)

<223> Unknown

<220>

<221> misc_feature

<222> (1326)..(1326)

<223> Unknown

<220>

<221> misc_feature

<222> (1328)..(1328)

<223> Unknown

<220>

<221> misc_feature

<222> (1343)..(1343)

<223> Unknown

<220>

<221> misc_feature

<222> (1345)..(1346)

<223> Unknown

<220>

<221> misc_feature

<222> (1378)..(1378)

<223> Unknown

<220>

<221> misc_feature

<222> (1415)..(1415)

<223> Unknown

<220>

<221> misc_feature

<222> (2477)..(2477)

<223> Unknown

<220>

<221> misc_feature

<222> (2540)..(2540)

<223> Unknown

<400> 31
ttgcctggtt gatcctcagg gttctactta gaatgcctcg aaaagtcttg gctggacacc   60

catgcccagt ctttctgcag ggtcccattg gggttaacct tctcatttca tcccatgtga   120

accaggccag gcccatcagg gtttggcaac cccctgatgc agtggttgct gccaggtgac   180

aggagcaagc ctgcagctgc tgggggggcca tgcagagaca gcctgccaga ggggagacca   240

cctggggagg ccagagccgt ggagacagca agagaccagg ggctgaggac agagtagtac   300

aggtctttgg tcccagtagt cctgaaacca ctgcactccg aacctttctg tacttagctt   360

aagccagttg gagtttctgt cctttacaac caagagcctt gataggaatg gggtcctgtg   420

ctacgctact gttggcttct ttcccgatcg ggcgctggag gggaacacag cagtgactac   480

agtgggatgc ttactcggtg ctgggcatgc tagaaagtgc ttgccatgcc ttatttccca   540

cgtggtgggg attttgaccc cacctgtaca gacagataag tgaggaccct tttcacctta   600

tcctgcaaca gaaaatccag cagccaaagc caacaagggc ccagcatagc atcttccctc   660

tctgacttca tcctcacgct ccacacacca tcccctggc cattcccagc agcccagtaa   720

gcactgcctc acacttccag ttccggacca gccaggatgg ccaggctgga tgggggccat   780

ccaccggctg aagccaattg cctattctcg agctgaaggt gaatcaatcc cgcataaatc   840

ttcgggcaga gaactngggt gggggtaga agaggggaa tgtctagaag gaaattctgg   900

ggcacattcc tggaagtgag gaggatggat attggacaga aattatgtca ttgcaggcac   960

cctcacttgc cctggccaca tggacagttc ctccccggct gtgttccgng cctcctctcg   1020

tgctccaggg cctgtctgtt cctggagcga gatgggtccc agggctgggc accagtcccc   1080

atctccagcc atcaggcact ttcctctctg tgttttggcg taaacacntc cctaggtttg   1140

tggatctgaa tcctcttccc aacacactca agctttgctg ggcctccctg cagtgtatgt   1200

ttaaggcacc acacagcctc caaggcctgg cacccgggca gtggccacct ggtaaacaca   1260

gcagtcagat ttcctcattt cagccaagtg taaaatcaag gtaatggatc tacnctttt   1320

tttttntntt ttttccaggg ggntnntttt tttttgagac ggagtctcac tctgtcancc   1380

ccggtctgga gtgcagtggc tcaatctcgg ctcanctggc aagctccgcc tcccaggttc   1440

atgccattct cctgcctcag cctacatagt agctgggact acaggtgccc gccaccacac   1500

ctagctaatt ttttgtattt ttagtagaga cggggtttca tcatgttagc caggatggtc   1560

tcgatctcct gacctcccaa agtggtggga ttacaggtgt gagccactgc gcccggctgg   1620

atgactcttg agacaacacc attcagacaa aggcaaggcc tcccacttaa actcataacc   1680

gtgtctcctt tctctccttc gatttgagcg gctgaatttg gttacagtca tctgacctgt   1740

gggtgtgaag tccacctgcc tggcataaaa agctgtgcct cctttctagg tgaggagaaa   1800

gagagagacc tggctcatct gaggtgtggt tgggaggggg gacccaggtg tgctggaaat   1860

gaaaagaaat gcattcctgt ttttcgtccc aacatgcaaa caactgaaca aaagcattag   1920

ggcctgagac tgggagtaaa gaattccttg tcaccatgga taccaggaaa tggccccact   1980

tatatataat aagggcttta gagatgctgg accatctgat attccagcct ggggccacat   2040

gggagtgtgc cctggtgtta ttccttatac agttccatga acatggctct ggaaacacct   2100

ctgtctgcag aaaatgaggc ttttcttttt ttgttcgggg gtgaacagag ggcagaggcc   2160

tgggcatctt cactcagcac ccctttgtaa cccagcactt agcaccatgg ctggcgcaca   2220

gcaatgtcac atgtgtgagt gcacacgatg cctcactgcc aggggtcacc ccacaccggt 2280

gctgttgggg gcgttggagt ggttatctct tctttagtcc tcaagctcct acctggcaga 2340

gagctgccca acaccgtcgg ggtggggtgg gcgggaaggg aagaagcagc agcaagaaag 2400

aagcccctg gccctcactc tccctccctg gacgcccct cttcgacccc atcacacagc 2460

cgcttgagcc ttggagncag tggatttccg agcctgggaa cccccggcgt ctgtcccggt 2520

gtcccccgca gcctcacccn cgtgctggcc cagcccccgc gagttcggga cccgggggttt 2580

ccggggtggc aggggggttcc catgccgcct gcgaggcctc ggctcgggcc gctcccggaa 2640

cctgcacttc aggggtcctg gtccgccgcc cccagcagga gcaaaacaag agcacgcgca 2700

cctgccggcc cgcccgcccc cttggtgccg gccaatcgcg cgctcggggc ggggtcgggc 2760

gcgctggaac cagagccgga gccggatccc agccggagcc caagcgcagc ccgcaccccg 2820

cgcagcggct gagccgggag ccagcgcagc ctcggccccg cagctcaagc ctcgtccccg 2880

ccgccgccgc cgcacgccgc cgccgccgcc cccggggcat ggc 2923

<210> 32

<211> 13

<212> DNA

<213> Homo sapiens

<400> 32
ccggggcatg gcc   13

<210> 33

<211> 24

<212> DNA

<213> Homo sapiens

<400> 33
cgtcagcact ctgatgatgg cctg   24

<210> 34

<211> 21

<212> DNA

<213> Homo sapiens

<400> 34
tctctgctat ctccaacctc a   21

<210> 35

<211> 23

<212> DNA

<213> Homo sapiens

<400> 35
caaacatgtc agctgttact gga   23

<210> 36

<211> 23

<212> DNA

<213> Homo sapiens

<400> 36
tagccttgca aaaatacctt ctg   23

<210> 37

<211> 25

<212> DNA

<213> Homo sapiens

<400> 37
gttggaaaga ttctctatac acctg   25

<210> 38

<211> 24

<212> DNA

<213> Homo sapiens

<400> 38
cgtcagcact ctgatgatgg cctg   24

<210> 39

<211> 21

<212> DNA

<213> Homo sapiens

<400> 39
tctctgctat ctccaacctc a   21

<210> 40

<211> 23

<212> DNA

<213> Homo sapiens

<400> 40
acgtcttcac caggtaatct gaa   23

<210> 41

<211> 23

<212> DNA

<213> Homo sapiens

<400> 41
ctatctgtgt catctttgcg atg   23

<210> 42

<211> 23

<212> DNA

<213> Homo sapiens

<400> 42
cgcttcctcc tatagatctt ggt   23

<210> 43

<211> 23

<212> DNA

<213> Homo sapiens

<400> 43
aagagagcat gtggagttct ttg   23

<210> 44

<211> 23

<212> DNA

<213> Homo sapiens

<400> 44
ccctgtaatg gaattgtgtt ctc   23

<210> 45

<211> 22

<212> DNA

<213> Homo sapiens

<400> 45
aaccttctct gggttcctgt at   22

<210> 46

<211> 23

<212> DNA

<213> Homo sapiens

<400> 46
agttcctgga aggtcttgtt cac   23

<210> 47

<211> 23

<212> DNA

<213> Homo sapiens

<400> 47
gctgacccct ttgaggacat gcg   23

<210> 48

<211> 23

<212> DNA

<213> Homo sapiens

<400> 48
ataggtcagc tcatgcccta tgt   23

<210> 49

<211> 23

<212> DNA

<213> Homo sapiens

<400> 49
gctgcctcct ccacaaagaa aac   23

<210> 50

<211> 24

<212> DNA

<213> Homo sapiens

<400> 50
gctttgctga cccgctcctg gatc   24

<210> 51

<211> 23

<212> DNA

<213> Homo sapiens

<400> 51
gaggccagaa tgacatctta gaa   23

<210> 52

<211> 23

<212> DNA

<213> Homo sapiens

<400> 52
cttgacaaca cttagggcac aat   23

<210> 53

<211> 15

<212> PRT

<213> Homo sapiens

<400> 53

Arg Glu Asp Leu His Cys Asp Ile Asp Glu Thr Cys His Phe Gln
1   5   10   15

<210> 54

<211> 2923

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (856)..(856)

<223> Unknown

<220>

<221> misc_feature

<222> (1009)..(1009)

<223> Unknown

<220>

<221> misc_feature

<222> (1314)..(1314)

<223> Unknown

<220>

<221> misc_feature

<222> (1326)..(1326)

<223> Unknown

<220>

<221> misc_feature

<222> (1328)..(1328)

<223> Unknown

<220>

<221> misc_feature

<222> (1343)..(1343)

<223> Unknown

<220>

<221> misc_feature

<222> (1345)..(1346)

<223> Unknown

<220>

<221> misc_feature

<222> (1378)..(1378)

<223> Unknown

<220>

<221> misc_feature

<222> (1415)..(1415)

<223> Unknown

<220>

<221> misc_feature

<222> (2477)..(2477)

<223> Unknown

<220>

<221> misc_feature

<222> (2540)..(2540)

<223> Unknown

<220>

<221> misc_feature

<222> (1128)..(1128)

<223> Unknown

<400> 54
ttgcctggtt gatcctcagg gttctactta gaatgcctcg aaaagtcttg gctggacacc   60

catgcccagt ctttctgcag ggtcccattg gggttaacct tctcatttca tcccatgtga   120

accaggccag gcccatcagg gtttggcaac cccctgatgc agtggttgct gccaggtgac   180

aggagcaagc ctgcagctgc tgggggggcca tgcagagaca gcctgccaga ggggagacca   240

cctggggagg ccagagccgt ggagacagca agagaccagg ggctgaggac agagtagtac   300

aggtctttgg tcccagtagt cctgaaacca ctgcactccg aacctttctg tacttagctt   360

aagccagttg gagtttctgt cctttacaac caagagcctt gataggaatg gggtcctgtg   420

ctacgctact gttggcttct ttcccgatcg ggcgctggag gggaacacag cagtgactac   480

agtgggatgc ttactcggtg ctgggcatgc tagaaagtgc ttgccatgcc ttatttccca   540

cgtggtgggg attttgaccc cacctgtaca gacagataag tgaggaccct tttcaccta   600

tcctgcaaca gaaaatccag cagccaaagc caacaagggc ccagcatagc atcttccctc   660

tctgacttca tcctcacgct ccacacacca tccccctggc cattcccagc agcccagtaa   720

gcactgcctc acacttccag ttccggacca gccaggatgg ccaggctgga tggggggccat   780

ccaccggctg aagccaattg cctattctcg agctgaaggt gaatcaatcc cgcataaatc   840

ttcgggcaga gaactngggt gggggggtaga agagggggaa tgtctagaag gaaattctgg   900

ggcacattcc tggaagtgag gaggatggat attggacaga aattatgtca ttgcaggcac   960

cctcacttgc cctggccaca tggacagttc ctccccggct gtgttccgng cctcctctcg   1020

tgctccaggg cctgtctgtt cctggagcga gatgggtccc agggctgggc accagtcccc 1080

atctccagcc atcaggcact ttcctctctg tgttttggcg taaacacntc cctaggtttg 1140

tggatctgaa tcctcttccc aacacactca agctttgctg ggcctccctg cagtgtatgt 1200

ttaaggcacc acacagcctc caaggcctgg cacccgggca gtggccacct ggtaaacaca 1260

gcagtcagat ttcctcattt cagccaagtg taaaatcaag gtaatggatc tacncttttt 1320

tttttntntt ttttccaggg ggntnntttt tttttgagac ggagtctcac tctgtcancc 1380

ccggtctgga gtgcagtggc tcaatctcgg ctcanctggc aagctccgcc tcccaggttc 1440

atgccattct cctgcctcag cctacatagt agctgggact acaggtgccc gccaccacac 1500

ctagctaatt ttttgtattt ttagtagaga cggggtttca tcatgttagc caggatggtc 1560

tcgatctcct gacctcccaa agtggtggga ttacaggtgt gagccactgc gcccggctgg 1620

atgactcttg agacaacacc attcagacaa aggcaaggcc tcccacttaa actcataacc 1680

gtgtctcctt tctctccttc gatttgagcg gctgaatttg gttacagtca tctgacctgt 1740

gggtgtgaag tccacctgcc tggcataaaa agctgtgcct cctttctagg tgaggagaaa 1800

gagagagacc tggctcatct gaggtgtggt tgggagggg gacccaggtg tgctggaaat 1860

gaaaagaaat gcattcctgt ttttcgtccc aacatgcaaa caactgaaca aaagcattag 1920

ggcctgagac tgggagtaaa gaattccttg tcaccatgga taccaggaaa tggccccact 1980

tatatataat aagggcttta gagatgctgg accatctgat attccagcct ggggccacat 2040

gggagtgtgc cctggtgtta ttccttatac agttccatga acatggctct ggaaacacct 2100

ctgtctgcag aaaatgaggc ttttcttttt ttgttcgggg gtgaacagag ggcagaggcc 2160

tgggcatctt cactcagcac ccctttgtaa cccagcactt agcaccatgg ctggcgcaca 2220

gcaatgtcac atgtgtgagt gcacacgatg cctcactgcc aggggtcacc ccacaccggt 2280

gctgttgggg gcgttggagt ggttatctct tctttagtcc tcaagctcct acctggcaga 2340

gagctgccca acaccgtcgg ggtggggtgg gcgggaaggg aagaagcagc agcaagaaag 2400

aagcccctg gccctcactc tccctccctg gacgccccct cttcgacccc atcacacagc 2460

cgcttgagcc ttggagncag tggatttccg agcctgggaa cccccggcgt ctgtcccggt 2520

gtcccccgca gcctcacccn cgtgctggcc cagccccgc gagttcggga cccggggttt 2580

ccggggtggc aggggttcc catgccgcct gcgaggcctc ggctcgggcc gctcccggaa 2640

cctgcacttc aggggtcctg gtccgccgcc cccagcagga gcaaaacaag agcacgcgca 2700